

JPRS 75068

5 February 1980

USSR Report

TRADE AND SERVICES

No. 1225



FOREIGN BROADCAST INFORMATION SERVICE

NOTE

JPRS publications contain information primarily from foreign newspapers, periodicals and books, but also from news agency transmissions and broadcasts. Materials from foreign-language sources are translated; those from English-language sources are transcribed or reprinted, with the original phrasing and other characteristics retained.

Headlines, editorial reports, and material enclosed in brackets [] are supplied by JPRS. Processing indicators such as [Text] or [Excerpt] in the first line of each item, or following the last line of a brief, indicate how the original information was processed. Where no processing indicator is given, the information was summarized or extracted.

Unfamiliar names rendered phonetically or transliterated are enclosed in parentheses. Words or names preceded by a question mark and enclosed in parentheses were not clear in the original but have been supplied as appropriate in context. Other unattributed parenthetical notes within the body of an item originate with the source. Times within items are as given by source.

The contents of this publication in no way represent the policies, views or attitudes of the U.S. Government.

PROCUREMENT OF PUBLICATIONS

JPRS publications may be ordered from the National Technical Information Service (NTIS), Springfield, Virginia 22161. In ordering, it is recommended that the JPRS number, title, date and author, if applicable, of publication be cited.

Current JPRS publications are announced in Government Reports Announcements issued semimonthly by the NTIS, and are listed in the Monthly Catalog of U.S. Government Publications issued by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

Indexes to this report (by keyword, author, personal names, title and series) are available through Bell & Howell, Old Mansfield Road, Wooster, Ohio, 44691.

Correspondence pertaining to matters other than procurement may be addressed to Joint Publications Research Service, 1000 North Glebe Road, Arlington, Virginia 22201.

Soviet books and journal articles displaying a copyright notice are reproduced and sold by NTIS with permission of the copyright agency of the Soviet Union. Permission for further reproduction must be obtained from copyright owner.

| | | | | |
|---|--|--|---|------------------------------|
| REPORT DOCUMENTATION PAGE | | 1. REPORT NO. JPRS 75068 | 2. | 3. Recipient's Accession No. |
| 4. Title and Subtitle USSR REPORT: TRADE AND SERVICES, No. 1225 | | | 5. Report Date 5 February 1980 | |
| 7. Author(s) | | | 6. | |
| 9. Performing Organization Name and Address Joint Publications Research Service 1000 North Glebe Road Arlington, Virginia 22201 | | | 8. Performing Organization Rept. No. | |
| 12. Sponsoring Organization Name and Address As above | | | 10. Project/Task/Work Unit No. | |
| | | | 11. Contract(C) or Grant(G) No. (C) (G) | |
| | | | 13. Type of Report & Period Covered | |
| 15. Supplementary Notes | | | 14. | |
| 16. Abstract (Limit: 200 words) This serial report contains information on international economic relations, consumer goods, domestic trade, transportation, manpower, and industrial sociology. | | | | |
| 17. Document Analysis a. Descriptors USSR International Relations Commerce Consumer Goods Domestic Trade Economics Manpower Transportation b. Identifiers/Open-Ended Terms c. COSATI Field/Group 5C, 5I | | | | |
| 18. Availability Statement Unlimited Availability Sold by NTIS Springfield, Virginia 22161 | | 19. Security Class (This Report) UNCLASSIFIED | | 21. No. of Pages 63 |
| | | 20. Security Class (This Page) UNCLASSIFIED | | 22. Price |

5 February 1980

USSR REPORT
TRADE AND SERVICES
No. 1225

| CONTENTS | PAGE |
|--|------|
| INTERNATIONAL ECONOMIC RELATIONS | |
| Fadeyev on CEMA Activities, Links With Non-CEMA Entities (N. Fadeyev; PRAVDA, 12 Dec 79) | 1 |
| Briefs | |
| Romanian-Soviet Trade Agreement | 6 |
| Uranium Deal With Austria | 6 |
| MANPOWER: LABOR, EDUCATION, DEMOGRAPHY | |
| High Turnover of Construction Workers Creates Problems (Yu. Pak; SOTSIALISTICHESKIY TRUD, Dec 79) | 7 |
| Mechanization and Problems in Reducing Manual Labor (P. Krylov, A. Shadyev; PLANOVOYE KHOZYAYSTVO, Oct 79). | 21 |
| TRANSPORTATION | |
| Delay of Electric Locomotives Criticized (L. Turov; GUDOK, 6 Dec 79) | 32 |
| November Figures for Railroad Traffic (GUDOK, 18 Dec 79) | 33 |
| Improvement in Condition of Railroad Track (GUDOK, 19 Dec 79) | 35 |
| December Performance of Railroads (GUDOK, 21 Dec 79) | 37 |
| Passenger Train Delays Reported (A. Drozdov; GUDOK, 21 Dec 79) | 39 |

| CONTENTS (Continued) | Page |
|---|------|
| Brief Summary of Railroad Transport Problems for 1979 (M. Karmanov; GUDOK, 22 Dec 79) | 40 |
| Aeroflot Pilot Training School Described (V. Khrustov; KRASNAYA ZVEZDA, 23 Dec 79) | 43 |
| Aeroflot 1979 Accomplishments, 1980 Plans Discussed (V. Belikov, A. Nazarov; IZVESTIYA, 26 Dec 79) | 46 |
| Chief of Finance Administration Comments on Finances (V. Zavaruyev; RECHNOY TRANSPORT, No 8, 1979) | 48 |
| Delays in Coal Transport Reported (GUDOK, 22 Dec 79) | 54 |
| Various Uses of Computers in Transportation Described (Various sources, 1, 2, 5 Dec 79) | 56 |
| Maritime Accounting, by I. Dolgosheya | |
| Computers Calculate Timetables | |
| Insufficient Computer Supplies, by G. Mar'yenko, N. Sidorenko | |
| Computer Controls Traffic Lights, by V. Ivanov | |
| Briefs | |
| Diesel Production | 59 |
| Freight Shipping | 59 |
| Railway Bridge Construction | 59 |
| Railway Transport | 60 |
| Freight Shipment | 60 |
| High-Speed Express | 60 |
| Electric Power | 60 |
| Microcontrol Computer | 60 |
| Mobile Power Generation | 60 |

INTERNATIONAL ECONOMIC RELATIONS

FADEYEV ON CEMA ACTIVITIES, LINKS WITH NON-CEMA ENTITIES

LD311607 Moscow PRAVDA in Russian 12 Dec 79 p 4 LD

[Article by CEMA Secretary General N. Fadeyev: "CEMA's High Prestige"]

[Text] In celebrating the 30th anniversary of CEMA the communist and workers parties of the fraternal countries have given a high assessment of its activity. It promotes the further rallying together of our community's states, the intensification of our cooperation aimed at resolving the tasks of building a new society, the stepping up of socialism's influence on world development, the assertion of the principles of equality and mutual advantage in international relations and the consolidation of peace.

The CEMA countries' achievements are universally acknowledged. The national income they produced in 1978 had increased 7.6 times compared with 1950 while gross agricultural output increased 2.5 times. Their reciprocal trade turnover has increased over 20 times. The material and cultural living standard of the fraternal states' population is steadily improving on the basis of rapidly increasing national income.

The CEMA member countries surpass the "Common Market" (EEC) countries and the United States taken together in terms of oil and iron ore extraction and the production of lumber, sugar and mineral fertilizers. They generate almost 1.5 times more electricity than the EEC members and produce 3.1 times more gas and coal (reckoned in terms of ideal fuel), 1.6 times more pig iron and steel, 1.5 times more cement, 2.8 times more pulp, 1.6 times more sulfuric acid and 1.4 times more woolen textiles and leather footwear.

CEMA's active role as an economic cooperation organization of a new type pooling the efforts of equal sovereign socialist states was manifested in these outstanding achievements. CEMA's entire work is based on the principles of socialist internationalism, respect for state

sovereignty, noninterference in the internal affairs of countries, voluntariness, mutual advantage and comradely mutual assistance. All questions are resolved with the consent of each state involved. The CEMA countries' cooperation is not accompanied by the creation of supranational organs.

Pooling and coordinating the efforts of the community countries, CEMA has consistently promoted and continues to promote the deepening and improvement of cooperation and the development of socialist economic integration. CEMA's activity promotes the plan-governed growth of the national economy, the acceleration of economic and technical progress in the fraternal states, the raising of labor productivity and the gradual rapprochement and equalization of economic development levels.

CEMA today is a permanently operating headquarters where the CEMA countries collectively elaborate the strategy and tactics for their multi-lateral economic, scientific and technical cooperation. In three decades CEMA has passed through a number of stages, each of which accorded with the urgent demands of socioeconomic development.

Under conditions where the task of creating the material and technical base of communism is being resolved in the Soviet Union and the task of building a mature socialist society is being resolved in the majority of other CEMA countries, the need has arisen for implementing a broad program of collaboration taking into account the objective processes of socialist economic integration.

The comprehensive program for the further deepening and improvement of cooperation and the development of the CEMA countries' socialist economic integration adopted in July 1971 by the 25th CEMA session was just such a document--effective and scientifically substantiated. This program defined the main strategic avenues of collaboration for the long term and elevated it to a higher level.

The long-term targeted programs for cooperation in the most important spheres of physical production approved by the 32d and 33d CEMA sessions were a further major step forward. It is a case of meeting the CEMA member countries' economically substantiated requirements for the main types of energy, fuel and raw material. It is planned to improve collaboration in the sphere of agriculture and the food industry. Measures have been jointly outlined for developing the machine building sectors which insure its qualitative restructuring; for satisfying the CEMA countries' requirements for consumer goods; and for developing transport communications.

The long-term targeted programs lend specific form to and develop the comprehensive program. They define the unified strategy for cooperation among the CEMA countries for the long term, up to the year 1990.

The fraternal countries' achievements form a vivid contrast to the processes typical of the world capitalist system--economic and political crisis accompanied by the aggravation of the struggle for markets, unrestrained inflation, and the enormous rise in unemployment.

The true democratism in CEMA's activity and the lofty ideals and goals which guide the countries belonging to it, and the fraternal states' socioeconomic successes have brought CEMA high international prestige.

This is confirmed by the growing interest evinced by many countries and international organizations in CEMA's work. In turn CEMA seeks to develop ties with states which are not CEMA members on the basis of the principles of equality, mutual advantage and noninterference in internal affairs.

[LD311609] The 15-year cooperation between CEMA and Yugoslavia can serve as an example of strengthening relations with socialist countries which are not CEMA members. Yugoslavia is taking part in the implementation of over 50 multilateral agreements and contracts on production sharing and specialization and on scientific and technical cooperation which are in force within the CEMA framework. The consolidation of these ties is borne out by the dynamics of Yugoslavia's foreign trade with the CEMA countries. In 1978 its volume had increased 5.7 times compared with 1964.

CEMA's relations with the capitalist countries are developing. An agreement has been signed on cooperation between CEMA and Finland. In 1975-1976 some 25 documents on joint work in the sphere of machine-building, the comprehensive use of timber raw material, oil, gas, transportation and environmental conservation were concluded between the sides.

The socialist community states consistently advocate the expansion of equitable ties with the developing countries. They resolutely promote the exclusion, from world economic relations, of discrimination and inequality engendered by capitalist, colonialist and neocolonialist policy and they struggle actively to establish a new, just economic order.

The developing countries' desire to strengthen contacts with CEMA and study its experience is growing accordingly. For a number of years now CEMA has been cooperating with Iraq and Mexico, relevant agreements having been concluded in 1975. The 33d CEMA session satisfied the request of the People's Democratic Republic of Yemen Government and a representative of democratic Yemen will continue to take part in CEMA's work as an observer. The People's Democratic Republic of Congo, Guyana, Colombia and a number of other countries have also expressed their desire to cooperate with CEMA.

CEMA's increased international prestige is borne out by the participation of representatives from Angola, Afghanistan, the People's Democratic Republic of Yemen, Iraq, Laos, Mozambique, Mexico, Ethiopia and Finland in its 33d session.

The granting of observer status at the UN General Assembly in 1974 is a recognition of CEMA's role. CEMA has extensive ties with 60 international organizations in whose work representatives of countries with different socioeconomic systems take part.

It should be noted that the consolidation of CEMA's international contacts, like all its activity, accords with the lofty ideals of universal peace and the peoples' security and is an important factor in the consolidation and materialization of the relaxation of tension.

Motivated by these lofty ideals, CEMA has suggested concluding an agreement on the basic principles of mutual relations between CEMA and the CEMA countries on the one hand and the EEC and the EEC countries on the other. This agreement would be an important contribution to the materialization of detente and the fulfillment of the clauses contained in the Final Act of the Conference on Security and Cooperation in Europe.

In November this year talks were continued in Moscow between the delegation from CEMA and the CEMA countries and the EEC delegation on questions connected with the elaboration of a draft agreement. Despite a certain advance at the talks it must be noted that there are still differences on fundamental questions determining the agreement's nature. It is to be hoped that during the next round of talks scheduled for April 1980 there will be success in finding a mutually acceptable solution for these important questions too since there are no legal, organizational or economic reasons which might become an obstacle to the conclusion of a broad framework agreement between CEMA and the CEMA countries on the one hand and the EEC and the EEC countries on the other.

At the present stage special significance attaches to the further improvement of cooperation among the CEMA states. This was reflected in the document recently adopted by the CEMA session "The Basic Avenues for the Further Improvement of the Organization of the CEMA Countries' Multilateral Cooperation and CEMA's Activity."

The communist and workers parties pay constant attention to the development of cooperation among the fraternal states and to the improvement of CEMA's activity. Especially important significance attaches to meetings between the leaders of the fraternal parties' central committees. At the meetings and talks in the Crimea this year between Comrade L. I. Brezhnev, general secretary of the CPSU Central Committee and chairman of the USSR Supreme Soviet Presidium, and the leaders of the fraternal parties and states there was a discussion of principled questions of

long-term cooperation among the socialist community countries. Those taking part in the Crimean meetings stressed the great significance of the long-term targeted cooperation programs and the importance of their successful implementation for scaling new heights of scientific and technical progress and improving production efficiency and output quality in the interests of the further growth of the well-being of the people's masses. During the meetings there was weighty confirmation of the fraternal states' unshakable adherence to a policy of peace and international cooperation.

CEMA's activity graphically demonstrates the advantages of interstate relations of a new type. It may confidently be asserted that CEMA's role in the world arena and its authority will steadily grow. A guarantee of this lies in the fraternal countries' further successes in socioeconomic development and in the intensification of cooperation and socialist economic integration.

CSO: 1823

INTERNATIONAL ECONOMIC RELATIONS

NEWS

ROMANIAN-SOVIET TRADE AGREEMENT--A protocol on exchanges of consumer goods in 1980 between the Romanian Ministry of Domestic Trade and the USSR Ministry of Trade was signed today in Moscow. The protocol provides for an over 20 percent increase in the volume of bilateral exchanges compared with the current year. [Text] [AU132040 Bucharest Domestic Service in Romanian 2000 GMT 13 Dec 79 AU]

URANIUM DEAL WITH AUSTRIA--The Austrian company that was to have built the second Austrian powerplant in Stein has reached a settlement on the termination of its 1 billion schilling contract with the USSR concluded in 1974 on the supply of Soviet nuclear fuel and fuel enrichment. Originally, the USSR had demanded a \$14 million penalty for the termination of the contract by the Austrian side, but has now settled for \$5 million. As the USSR has also consented to the reexportation of the uranium already delivered to the Austrian company during last week's talks in Moscow of Federal Power Company Director General Fremuth, the Austrian side will not only incur no losses but even make substantial profits because it originally obtained the uranium at a very favorable price. [AU231326 Vienna VOLKSSTIMME in German 23 Jan 80 p 2 AU]

GO: 1823

MANPOWER: LABOR, EDUCATION, DEMOGRAPHY

HIGH TURNOVER OF CONSTRUCTION WORKERS CREATES PROBLEMS

Moscow SOTSIALISTICHESKIY TRUD in Russian No 12, Dec 79 pp 97-107

[Article by Yu. Pak, deputy chairman of the USSR State Committee for Labor and Social Problems: "The Labor Force at Construction Projects"]

[Text] An important role belongs to capital construction in the development of a socialist economic system. During the years of Soviet rule, capital construction has been transformed into one of the key industrial sectors of the national economy and is being carried out on a gigantic scale. During the three years of the current five-year plan alone, more than 700 major industrial enterprises have gone into operation, 6.3 million apartments with a total floorspace of 321 million square meters have been made available, and during this time more schools, kindergartens and nurseries, hospitals, polyclinics and other structures than specified by the five-year plan were built.

However, there are still considerable defects in the activity of construction organizations, defects which lower its efficiency. At the November (1978) Plenum of the CPSU Central Committee, Comrade N. S. Brezhnev, general secretary of the Party Central Committee and chairman of the Presidium of the USSR Supreme Soviet, noted that the state of affairs in capital construction is improving but slowly, that the substantial clearance between plans and their fulfillment by construction ministries is being maintained, and that up to this time they have not succeeded in calling a halt to the process of overextension of capital investments in numerous objects and, hence, to the growth of unfinished production.

A complex of measures to eliminate these and other shortcomings was specified in the decree of the CPSU Central Committee and USSR Council of Ministers, "On Improving Planning and Strengthening the Influence of the Economic Mechanism on Raising Production Efficiency and the Quality of Work." In particular, they have been directed toward heightening the regularity of construction production and toward the achievement of a better sense of balance in the volumes of construction and installation work between material and technical resources and the capacities of construction and installation organizations. The decree envisages a gradual transition to planning of labor productivity, as well as of the wage fund in terms of net output (normative) or in terms of

another indicator that more fully reflects changes in labor input. Indicators for the commissioning of objects and volumes of products to be marketed are advancing into first place in construction and installation organizations. The decree aims production collectives toward a further development of cost accounting on the basis of the assignments for the five-year plan and of long-term economic quotas that guarantee an increase in resources being left at their disposal, in conjunction with an improvement in the end results of economic activity and simultaneous growth of deductions of funds for the state budget. This will enable one to strengthen the dependence of the wages of each employee and of labor collectives as a whole on a rise in labor productivity and achievement of high results in operations by organizations. Great attention was paid in the decree to an acceleration of scientific-technical progress.

Everything taken together, by raising the economic system in the sector to a new stage of development, will be conducive to the accomplishment of one of the most important tasks facing construction at the time in question: anchoring the labor force at their jobs and the creation of stable collectives, factors with which the efficiency of construction production and its quality are directly linked. The complexity of the problem in question arises from some of the special features of the sector: the high labor-intensiveness of construction and installation work (in the structure of inputs, the proportion of living labor in the work is almost twice as high as in the production of industrial output), relatively harsh working conditions, difficulties in the organization of everyday life for those working in it and some other factors.

The system of recruitment, vocational training and improvement of skills of construction workers was molded successively in the country beginning with the first five-year plan. This has permitted the creation of a modern network of continuously functioning contract construction and installation organizations that have at their disposal a definite contingent of skilled personnel. But, all the same, the problem of the labor force in construction, particularly as equipment and processing methods become more complex, remains critical. One is required to improve the very structure of the labor force and to raise its qualitative level sharply.

Turnover of the Labor Force: Its Scope and the Reasons for its Emergence

The high turnover of workers hinders the solution of the personnel problem in construction. Its basic cause is a certain lack of conformity of organizational, technical-economic and social conditions in this sector to the requirements of the present-day stage of development of public production and to the cultural and technical level of the working class, which has grown. Research shows that turnover in the labor force is a complex socio-economic phenomenon depending on a large number of diverse factors. More often than not, the reason for departure is dissatisfaction with the work, unfavorable working conditions and unfavorable conditions for everyday life and, what is particularly important, the lack of prospects for growth in a given production collective and a lack of opportunities to improve one's qualifications,

which has a direct influence on wages and creates tense relations in the collective, etc.

Very frequently, particularly among youth, turnover is intensified owing to the fact that the trade of builder was chosen at random. Thus, an analysis of materials from surveys of 180 industrial enterprises and construction trusts in 73 cities of the RSFSR, conducted by the RSFSR State Committee for Labor, has shown that of the total turnover of labor personnel, 60 percent can be attributed to youth, the majority of whom decided to change vocations. With such a state of affairs, there emerges among a portion of the workers an attitude of indifference toward their labor and construction project and they are, as it were, psychologically attuned to a temporary sojourn in the collective.*

One must note that we have done quite a bit to reduce the turnover of the labor force of builders. As a result of the implementation of measures stipulated by the decree of the CPSU Central Committee and USSR Council of Ministers of 12 January 1968, "On Measures to Ensure that Capital Construction is Provided with Personnel," substantial work has been conducted on expanding the network of educational institutions for vocational and technical education that offer specialization in construction and for improving the training of skilled workers directly on the job, and they have begun to pay more attention to an improvement in housing conditions and cultural and personal services conditions. The turnover of labor personnel in construction during the first years after the publication of the decree was lowered to 1.4 times what it had been; however, it nevertheless continues to remain high and during the past three years has been maintained at the same level.

In all, a substantial number of workers annually quit construction for diverse reasons (entrance into educational institutions, retirement on pension, change in location of employment, etc.). Of those who resigned at their own request, 60 to 70 percent are individuals up to the age of 30. In connection with this, it is characteristic that less than a third of those who resigned offer to transfer into other construction organizations. All the remaining ones leave for other sectors of the national economy, which testifies to a lowering of prestige of the building trades.

Where then is the way out of the situation that has been created and are we able to achieve a substantial reduction in turnover and, if we can, to what extent? As a consequence of the fact that a complex combination of diverse factors has its influence on the social behavior of man, it is apparent that it is not fully possible to call a halt to turnover, and, to be sure, there is no need for this. It is evident that the task of bringing its level down

* These and some other causes for turnover were examined in detail from the psychological point of view in the interesting research by Professor K. K. Platonov, "Sotsial'noye upravleniye razvitiyem proizvodstvennykh kollektivov" [Social Management of the Development of Production Collectives], TsNTOneftekhim [Center for Scientific Organization of Labor of the Petroleum Refining and Petrochemical Industry?], 1976.

to 5 to 7 percent is realistic. The economic admissibility of such a level is corroborated by the results of the economic activity of those construction organizations where the resignations of workers at their own request and for violations of labor discipline, i.e., for reasons that are characteristic of turnover, are of precisely this magnitude.

Work on a reduction in turnover presupposes an analysis of its causes; however, it can be reliable only in that instance where it is to be conducted with all data concerning the trade, length of service on the job and educational and age level taken into consideration, as well as performed separately for men and women. Much can be provided here by information relating to the specialization of construction organizations and their geographical situation. Unfortunately, owing to a lack of the necessary methods and specialists, such an analysis is not being made by construction ministries; hence, the measures being specified by them are not infrequently random and do not always achieve the goal.

Furthermore. The experience that has been gathered shows that many of the reasons for turnover are engendered by miscalculations in social planning and by defects of a production nature. The basic mass of builders consists of individuals up to the age of 34 years, whereas a fifth of them are below 25 years of age. At such an age it is particularly important to develop in people a creative attitude toward labor, to provide for and ensure a growth in their qualifications and vocational skill and to conduct ideological and upbringing work among them, enabling them to develop an aggressive attitude toward life. Meanwhile, owing to the overextension of capital investments at a multitude of construction projects (thus, more than 32,000 objects are being built simultaneously in the USSR Ministry of Construction), workers are dispersed. There are no more, on the average, than 12 men at each of these objects. Naturally, it is difficult to conduct upbringing measures under these conditions.

One must observe that the supervisory personnel of construction projects pay little attention to questions as important as the regulation of intracollegiate relations. At the same time, as observations testify, departures from the job not infrequently occur as a consequence of the fact that a healthy psychological climate has not been created at some construction projects. Lower-level supervisors often lack the necessary knowledge in this field and are inclined, as was the case in the 1930's, to view the employee only from the point of view of production resources, without taking the socio-psychological factors of personality into consideration.

The sector is marked by a large gap between the level of mechanization of diverse processes and by widespread use of manual labor. Construction science and practice have suggested some modes for changes embodying new principles in processing methods—installation of houses from prefabricated units [iz ob'yemnykh elementov], prefabricated installation in industrial construction, etc.—however, they have still not all been disseminated on a sector-wide scale. A large quantity (up to 40 percent) of ancillary and transport operations, the level of mechanization of which is insignificant, are

performed at construction sites. Hence, the average category of work (3.2) is comparatively low and this means that the growth of personnel in terms of qualifications is slowed down. An analysis of the movement of personnel in the construction organizations of Siberia, which was conducted by the Siberian Department of the USSR Academy of Sciences, has shown that nearly 18.6 percent of workers of the first category and 15.3 percent of workers of the second category who resigned had had a length of service on the job of more than three years. Such a situation, naturally, gives birth to dissatisfaction with their labor among workers, almost two-thirds of whom have an education no lower than incomplete secondary, while a quarter have higher, unfinished higher, specialized secondary and general secondary education.

Practice bears witness to the fact that where the turnover of personnel is high, the losses of working hours are also, without fail, great. This is, as it were, two sides of the same coin. According to data from norm-research stations, losses of working hours within the shift in construction reach 8 to 10 percent on the average. They are brought about in the main by defects in the organization of labor and production and by violations of labor discipline. Alongside the obvious losses, so-called concealed losses—nonproductive labor inputs arising for a multitude of reasons—exert a negative influence on the indicators of economic activity: they arise owing to improper warehousing of building materials in the zone adjacent to the object, low-efficiency methods of work, mistakes in the blueprints, unsatisfactory quality of components, structures and instruments, etc. To them can be attributed nearly 10 percent of the total resources of working hours lost. All this disrupts the rhythm of production processes, creates psychological stress and lowers labor productivity.

Particularly intolerable is the fact that not infrequently, in violation of existing legislation, they attempt to compensate for losses of working hours by means of additions [pripiski?], payment for jobs not actually performed or by artificially making the description of processing methods more complicated than they actually are in the job authorizations. This will lead, on the one hand, to a nonproductive expenditure of the wage fund and, on the other, to disorganization of the system of wages and to costs of a moral nature. An unfavorable production atmosphere is created, which increases the turnover of personnel.

Among the reasons for turnover are overtime work, which is widely practiced in construction, labor on days off, unsatisfactory everyday living conditions at construction sites, failure to provide workers with housing and children's preschool institutions, an insufficient level of mechanization of labor-intensive processes, work out in the open air under any sort of climatic conditions, remote dislocations from one's place of residence, etc.

Let us note that in shedding light on why workers leave construction organizations, the wage level, as a rule, does not figure as a basic cause. None the less, one must stress that the wage rates currently functioning in construction and the salaries were introduced 10 years ago and have lagged substantially behind present-day organizational-technical conditions at construction projects and in key sectors of the national economy.

On Ways to Overcome Turnover

The chief ways and directions by which work to overcome turnover must be carried out are widely known. In general form, it means changes in the technical base of construction production, an improvement in its organization and an improvement in working conditions and conditions for the everyday life of employees. Such measures, when taken together in combination with each other, will heighten the attractiveness of labor at a construction project and will promote an anchoring of workers at their jobs and a lowering in the turnover. In even more general form, one can formulate the task of reducing personnel turnover as that of ensuring the fullest correspondence between the demands of the employee and those conditions in which his activity takes place.

The decree of the CPSU Central Committee and USSR Council of Ministers, "On Measures for the Further Improvement of the Training of Skilled Personnel and Anchoring Them in Their Jobs in Construction," gave concrete form to these directions. It stipulates measures to improve the organization of construction production, to strengthen labor and production discipline and to disseminate widely lump wage payments and brigade contract and the practices of the foremost collectives and production innovators. Great attention was paid to the creation of conditions for high-productivity work by brigades, to providing them promptly with the necessary materials and complete sets of the means of small-scale mechanization, stock, instruments and accessories and to the training of brigade leaders. At the same time the responsibility of chief engineers, construction superintendents, foremen and other engineering and technical personnel for the preparation and organization of construction production, for fulfillment of the targets in terms of a growth in labor productivity and for elimination of shortcomings in setting norms for it and in wages was raised.

A number of measures stipulated by the decree have been directed toward strengthening the material interest of builders (establishment of grants for economic acquisition of necessities [khozyaystvennoye obzavedeniye?] to soldiers being released from the Soviet Army and who have expressed a desire to work in construction, an increase in benefits to individuals being sent here [to construction?] by organized recruitment, etc.). Measures have also been outlined to improve public catering at construction sites, medical services, labor safety techniques and labor safety regulations. At-the-plant production of standardized stock buildings and facilities—mobile, containerized and conditionally transportable—is being increased. Without doubt, the annual reward being introduced in construction to mark one's number of years on the job will be of great significance in securing personnel at their jobs.

The introduction of the practices of the leading construction projects is promoting an improvement in the organization of construction production, a growth in labor productivity, as well as of the wages of workers, and a rise in their satisfaction with their labor. During recent years quite a few long-range undertakings have emerged in the foremost construction collectives. Among them one should, first of all, mention the method of brigade contract, which had its birth in 1970 in the brigade of Hero of Socialist Labor

N. Zlobin. It is helping to concentrate forces and resources and is exerting a wholesome influence on the development of people's creative initiative.

A patriotic innovation under the motto of "Complete the Brigade's Five-Year Assignment with Less Staff" has arisen in Sverdlovskaya Oblast. The progressive system of continuous planning and flow-line construction worked out by the builders of Orël is enjoying widespread renown. With the aim of improving labor organization, the creation of major comprehensive construction flows and of complex brigades working by contract and turning over finished sections of pipeline to the client is being practiced in the system of the Ministry of Construction of Petroleum and Gas Industry Enterprises.

Unfortunately, these and many other useful undertakings are being inadequately disseminated in the construction industry.

The effectiveness of the measures that are being applied in construction in reducing turnover is corroborated by interesting research by the Institute of Economics and Organization of Industrial Production of the Siberian Department of the USSR Academy of Sciences. It determined the average annual rates in the lowering of turnover in construction in the USSR for the period from 1961 to 1967 (prior to the adoption of the decree of the CPSU Central Committee and USSR Council of Ministers, "On Measures to Ensure that Capital Construction is Provided with Personnel") and from 1968 to 1975 (after the adoption of the decree). The average annual rate of reduction in the coefficient of turnover in construction in the USSR during the first period was 1.65 percent, while during the second period it reached 4.72 percent, that is, accelerated to 2.86 times what it had been.

Research speaks in favor of a program approach to the solution of the problem in question, to which construction ministries, departments and the councils of ministers of Union republics must direct their concentrated attention and draft purposeful programs in order to achieve a reduction proceeding in conformity with a plan in the level of turnover of workers and to achieve stabilization of production collectives. This is, in our opinion, a two-pronged task. On the one hand, it is necessary over relatively brief periods of time to implement measures of an economic, organizational and social character as envisaged by the aforementioned decrees of the government and are also being planned by the construction ministries themselves and to ensure thereby a breakthrough in the work of stabilizing personnel. On the other hand, intensive work must be begun, work which will permit one to alter in a fundamental manner the content and nature of the work of builders in order to provide for a radical solution to the problem in the sector.

The time has come to introduce industrial processes that are new in principle and to make the transition to fully mechanized labor and, in many sections, to automated labor as well, while efficient methods for operations-effective production control are needed. The importance of the functions of supervision, recording of results and regulation of equipment, etc. must be increased in labor--such is the general direction. It is necessary for labor in construction to become safe and to take place under favorable conditions

so that it might have a creative character. Only in such a case will it be possible today to accomplish successfully the task of attracting a labor force and anchoring it at their jobs in the sector.

Construction, which has lagged behind industry in this respect, naturally cannot cope with such a complex task all at once, but it has the wherewithal to speed it up substantially. To begin with, the methodology for the planning of scientific progress must be changed. One must plan not just individual measures, but also the end result. A long-term comprehensive program to alter the content and character of labor in construction is necessary. The working out of programs of this type was stipulated by the decree of the CPSU Central Committee and USSR Council of Ministers, "On Improving Planning and Strengthening the Influence of the Economic Mechanism on Raising Production Efficiency and the Quality of Work."

Urgent Problems of Training and Improving the Skills of Workers

The formation, development and stabilization of production collectives depend to a large extent on the professional skill, over-all culture and ideological and political maturity of the working class. In connection with this, one must observe that the problem in question is of paramount social significance, inasmuch as the cultural and technical growth of the working class, which makes up more than 62 percent of the quantity of our population, determines the over-all rise in the level of development of Soviet society.

An intensification of the campaign for a rise in production efficiency and especially in labor productivity and the quality of output is directly and immediately linked to an improvement in all of our work on training skilled workers, including, as we all know, work on vocational training, improvement of skills and additional training of personnel. When taking into account the exceptional importance of staffing any production line with a complete profile of working personnel who, in terms of their knowledge and skills, meet the requirements of the times, it appears advisable to view this problem in construction separately from others connected with surmounting turnover and with the formation of high-productivity construction collectives. Construction ministries and their organizations are being aimed toward its solution by the decree of the CPSU Central Committee and USSR Council of Ministers, "On Measures for the Further Improvement of **Training and Improving the Qualifications of Workers on the Job.**"

It is commonly known that at the present time vocational and technical schools are the most perfect form for the training and upbringing of skilled workers from among the ranks of youth. Nearly 300,000 individuals come out of them annually and go into construction, who, of course, are of insufficient number when the level of annual turnover in the labor force which has developed is taken into consideration. From this it is clear that the network of vocational and technical schools that prepares workers for the building trades must be considerably expanded. However, the plans for commissioning them are systematically remaining unfulfilled despite the fact that the volumes of work on the construction of such objects amount to an insignificant quantity (0.1 to 0.2 percent) in the total volume of work by construction ministries.

But even if the situation were to be corrected and there were to come to be more vocational and technical schools, even so, in the future, the training of personnel directly on the job would remain predominant. In the previous issue of the journal the merits and shortcomings of both forms of vocational instruction were examined in rather great detail. Among the advantages of training directly on the job is the fact that when proper account is given to the range of trades for which personnel are required and when there is good organization of the work, this form enables one to study and to participate simultaneously in socially useful labor and promotes the inculcation of a feeling of socialist comradeship, as hundreds of skilled workers pass on their experience to thousands of novices. It is most suitable for instruction of workers over relatively brief periods of time in mass trades, as well as for the improvement of skills.

However, in the majority of construction organizations the level of training of workers is inadequate. The fact of the matter is that the procedure for their instruction on the job took shape decades ago, is being improved but slowly and lags substantially behind the requirements being made by the development of the scientific-technical revolution. It is possible to earmark a number of general and most characteristic defects of this work in construction organizations. There is a lack of an integral system at construction projects for training and improving the skills of the labor force and for their occupational advancement. Instruction is carried out on outmoded equipment and there is a shortage of textbooks and study aids. The periods of time for instruction are being reduced without valid justification, in conjunction with which instruction is oriented toward the development in workers of narrow practical know-how without the necessary reserve of theoretical knowledge that provides an opportunity to mold an employee with a broad specialization. At many construction projects there are few qualified teachers and instructors for on-the-job training. Course training with leave from work is utilized insufficiently, but there are evening (shift) departments associated with day-time vocational and technical schools without leave from work. Qualifying commissions not infrequently work as if things were a mere formality, in connection with which the level of requirements made of those taking the exams is lowered, while the skills categories being conferred on them are overstated.

As a result, insufficiently trained workers come to their work places, workers who cannot ensure the necessary labor productivity and quality of work. Subsequently they travel the long path of improving their skills, on which much time and funds are expended. This contingent, as experience has shown, is the most strongly subject to turnover.

The state of affairs in the training of the labor force in construction dictates the need to bring curricula and study programs into conformity with the present-day requirements of scientific-technical progress, to strengthen the material and technical base and, in particular, to introduce modern-day technical means of instruction and to increase the share of workers being instructed in the course network, as well as the periods of time devoted to training. These measures will enable one to achieve a situation wherein skilled workers with a broad specialization would come to construction projects and be capable of handling a complex of modern machines and equipment.

It is our view that the demand to centralize to a certain extent the training of personnel is long overdue in construction ministries, since small-scale and even medium construction and installation organizations in terms of their size are not in a position to organize the vocational instruction of workers independently owing to the absence of their own study base. Positive experience in this respect is to be found in the system of the USSR Ministry of Installation and Special Construction Work.

The training of workers on the job must ensure the correspondence of their vocational and qualifications make-up to the level achieved in the development of equipment and production technology. The drawing up of balances of the skilled labor force and long-range plans for training and improving the qualifications of personnel, as specified in conformity with the decree of the CPSU Central Committee and USSR Council of Ministers, "On Improving Planning and Strengthening the Influence of the Economic Mechanism on Raising Production Efficiency and the Quality of Work," will promote the accomplishment of the task in question. In practical terms, this is not now being done in construction.

The problem of training a skilled labor force is linked in the most intimate manner to the creation of an efficacious system of vocational guidance for youth. It is appropriate here, in our view, to recall the utterance of K. Marx, which has not lost its significance even for practice today: "... Trades seem the most exalted to us if they have struck deep roots in our hearts and if we are ready to present our life and all our aspirations as a sacrifice to the ideas having dominion in them. They can make happy that person who has a calling to them, but they doom to destruction that man who has taken to them hastily, without thinking things out, on the spur of the moment."*

In order to evaluate the impact of vocational guidance and its influence on production, it is possible to cite the results of research conducted at 10 enterprises in Sverdlovskaya Oblast. Those who chose their trade consciously fulfill the norms for output at a rate 7 percent higher than those who selected it at random, while defective output among them is three times less and their proposals for rationalizing production are 25 percent more frequent. There were double the number among them wishing to improve their qualifications, while there were nine times less the number of those aspiring to transfer to other work.

The selection of people who wish to move to a residence under conditions to which they are not accustomed (to the Far North, to the torrid regions of the country, etc.) is of special importance to construction in the system of vocational guidance. At the present time, the matter boils down in practical terms to a "calling in" by construction projects of youth without giving

* Marx, K., and Engels, F., "Iz rannikh proizvedeniy" [From the Early Works], Moscow, Gospolitizdat, 1956, p. 4.

consideration to the conformity of those entering upon the job to the specification of the trade being chosen and to the socio-economic consequences of such a means of putting together a staff for the labor force. In other words, a comprehensive system of vocational guidance and of training workers must be made to work smoothly in such a way so as to aim youth toward the choice of those trades which are most to their liking and of which our construction projects are at the same time in need to the greatest extent and then to so organize the instruction of young men and women so that they might acquire the necessary knowledge and skills in their chosen trade over a brief period of time.

The Practice of Planning the Number of Workers Is in Need of Improvement

A normally developing stable production collective must be staffed by that number of workers which is strictly necessary for the performance of the tasks facing it. Some of the shortfall in workers can be compensated for by certain organizational and technical measures. However, a surplus of workers inflicts unavoidable harm on production, since the established organization of labor and the production rhythm are disrupted, the management of the industrial process is made more complicated and the losses of working hours grow. As a consequence of this, labor productivity and wages are lowered and dissatisfaction with one's labor and turnover grow. The presence of surpluses of the work force on the job is, furthermore, incompatible with the growing tension in the balance of manpower resources in the country.

The number of workers, as one of the indicators of the plan in terms of labor, must be strictly based on the volume of work, the anticipated growth of labor productivity and the norms for shrinkage in the work force during the planning period. However, as practice has shown, the extent of justification for the plans for labor in construction and, in particular, for the indicator for the number of workers is inadequate.

From the first five-year plans up to the present time, the volumes of construction production have increased in the main by virtue of extensive factors. In pre-war years, as well as after the war, any requisitions by construction organizations for a work force were, in practical terms, satisfied, which, without doubt, has left a definite imprint on the psychology of the administrators of construction projects. One must also not discard from consideration the fact that under the existing system of economic indicators, it is disadvantageous to construction and installation organizations to reduce the number of workers and, hence, also the wage fund, since the fund has served up to this time as the base on which incentive funds and payments of different sorts have been calculated.

All this serves as a barrier to an increase in the volumes of construction and installation work with a smaller number of employees and leads in objective terms to the formation of surpluses in the work force in comparison with the real demand for it. The influence of some other factors also has its effects. One of them is the uneven planning of volumes of work in terms of the periods of the year and the deep-rooted practice of frequent revisions of the plan.

All-Union and republic construction ministries and organizations subordinate to them are striving to create original reserves for the work force. As a rule, a smaller number of workers is planned for construction organizations during the first quarter of the year when compared with the fourth quarter. As a result, they either resort to the maintenance of a surplus (and hence, poorly utilized) work force, or they reduce the share of personnel in order to recruit again in subsequent periods. Naturally, such a practice means the relocation of a significant mass of people, which is connected with enormous losses of working hours. The number of construction workers is also overstated as a consequence of the inadequate validity of the planning targets for the growth of labor productivity as they are being established by construction and installation organizations.

The determination on the basis of a detailed analysis of the factors influencing labor productivity is of decisive significance during planning for labor productivity. This is being done even now, but not always in a sufficiently qualified manner, while as of this time methods materials have not yet been created for the evaluation of a number of factors, particularly those of a socio-economic character. The precision of calculations depends to a large extent on the availability and quality of norms and accepted standards for labor input; however, work on the creation of the necessary normative base in the sector also lags behind the demands for it. As a result, labor inputs are not infrequently determined in approximate terms and in an overstated manner.

Under present-day conditions the fulfillment of state plans and socialist pledges with a smaller number of employees must become the chief task of each construction and installation organization. In this connection, it is a question not of conditional, but of unconditional, actual laying-off of workers. In this respect, there is great value in the initiative which we have already mentioned by the builders and installation workers of Sverdlovskaya Oblast, who have developed competition under the motto, "Complete the Brigade's Five-Year Assignment with Less Staff." The leading collectives have pledged themselves to perform the volumes of work planned for them with a real decrease in their number by virtue of a growth in labor productivity on the basis of an improvement in its organization, better utilization of equipment and working hours, a rise in the quality of work and a strengthening of labor discipline. The workers who were laid off are being sent to staff new brigades.

One must particularly stress that the laying-off of workers from brigades is taking place not in a simply formalistic fashion, but in a manner that has been carefully thought out, on the basis of profound and economically justified calculations. Thus, a "Temporary Methods Directive on the Basis for Fulfillment of the Brigade's Five-Year Assignment with Less Staff" has been drafted and is being applied in practice in the Glavreduralstroy [Chief Central Urals Construction Administration?] of the USSR Ministry of Construction of Heavy Industry Enterprises. The disclosure of reserves for the growth of labor productivity presupposes an analysis of the numerical and skills qualifications composition of the employees, a study of the causes

and the establishment of the dimensions of intra-shift and hidden losses of working hours. The opportunities for reducing the staff of brigades without detriment to the fulfillment of assignments are determined on this basis.*

Returning to the problem of regulating the number of workers, one must note that a negative role is played by the existing procedure for planning and utilization of the wage fund of the building organization. Not the results, but only labor inputs, i.e., the number of those employed and their skill qualifications make-up, are of decisive significance in calculating it. Thus, the wage fund has not been placed in direct dependence on the results of production activity. This induces some administrators of construction organizations to retain excess workers on the staff and also to carry out "local" regulation of the wage level, which not infrequently brings about personnel turnover out of some organizations and into others.

In order to reduce turnover, one must, along with other measures, bring the stream of the work force being sent into construction into line with the actual demand for it. In other words, it is necessary to improve the planning of labor. In particular, this means that the norms for labor input must be scientifically valid and drafted in conformity with the utilization of progressive technology and advanced methods for the organization of production and labor. Such norms permit one to justify the planning indicators for labor and wages in economic terms.

In order to improve the normative base, it is necessary to make the transition to a system of scientifically valid and mutually coordinated consolidated norms for labor input and wages, as worked out according to a single methods system at all levels from the USSR State Planning Committee, the ministry and main administration down to the trust, construction and installation administration, section and brigade. Consolidated norms for labor input per one million rubles of construction and installation work in terms of sectors and types of construction and drafted in centralized fashion must be one of the most important norms.

Important measures for improving planning and strengthening the influence of the economic mechanism on heightening production efficiency and the quality of work, as specified in the decree of the Party Central Committee and USSR Council of Ministers, will be conducive to overcoming the defects in construction which have been noted. In particular, it stipulates a number of measures for strengthening the process of providing economic incentives for the labor activity of collectives of builders: the transition to the formation of funds for providing economic incentives in terms of stable norms that are being approved in differentiated amounts in terms of the years of the five-year plan, an increase in the amount of bonuses being paid out for the commissioning of objects, etc. A substantial role in the work of economizing on labor must be played by a transition to planning the wage fund per ruble

* For more detail, see the article by Yu. Petrov, SOTSIALISTICHESKIY TRUD, 1979, No 3, p 34.

of output in terms of the indicator being used for the planning of labor productivity.

The numerous army of builders has welcomed with great enthusiasm the decisions of the Party and government on questions of improving planning and the entire economic mechanism. By consolidating their ranks and utilizing new methods of economic operation, construction collectives must do everything in order to cope successfully with their targets and to lay a firm foundation for creative work during the 11th Five-Year Plan.

COPYRIGHT: Izdatel'stvo "Transport", "Sotsialisticheskiy trud", 1979

8663

CS0: 1823

MANPOWER: LABOR, EDUCATION, DEMOGRAPHY

MECHANIZATION AND PROBLEMS IN REDUCING MANUAL LABOR

Moscow PLANOVoye KHOZYAYSTVO in Russian No 10, Oct 79 pp 46-54

[Article by P. Krylov, division expert of USSR Gosplan, and A. Shadyev, deputy subdivision chief of USSR Gosplan]

[Text] It is one of the most important aspects of CPSU economic policy to mobilize potential in every way to raise production efficiency, to speed up scientific-technical progress, to raise labor productivity and to improve the quality of performance.

A further increase in the growth rates of labor productivity requires that the most effective organizational and technical measures be carried out to reduce manual labor by mechanizing and automating auxiliary operations (lifting and moving, loading and unloading, warehouse manipulation, etc.), which represent a potential for raising labor productivity and for replenishing the labor resources of the principal production operation.

In the Report Address of the CPSU Central Committee to the 25th party congress L. I. Brezhnev emphasized: "A sharp reduction in the share of manual labor and comprehensive mechanization and automation of production are becoming an indispensable condition of economic growth."*

Between 1971 and 1977 the total number of automatic production lines in industry nearly doubled, and the number of fully mechanized and automated sections and shops increased from 44,200 to 74,300. Moreover, there are now 5,940 fully mechanized and automated enterprises.

Considerable know-how has been acquired in the field of automation in motor vehicle building. For instance, automatic lines are used to machine up to 90 percent of engine blocks, 80 percent of cylinder heads, and 60 percent of transmission carriers.

But the relative share of mechanized and automated work in machinebuilding is still not high enough, and the potential for converting workers from manual to mechanized and automated work are still far from exhausted.

* "Materialy XXV s"yezda KPSS" [Proceedings of the 25th CPSU Congress], Moscow, Politizdat, 1978, p 43.

The calculations of specialists show that on the basis of technical solutions already tested--such as new manufacturing processes, for example, for making parts and rods, the use of industrial robots in machinebuilding and of pusher conveyors with automatic routing of materials and of stacker cranes with programmed control, etc.--monotonous manual labor with low productivity can be reduced almost 30 percent. Even within the current 5-year period plans drafted for retooling enterprises in 11 machinebuilding ministries call for converting 150,000 workers from manual to mechanized work, including 60,000 from heavy manual work, and for increasing the level of mechanization 4.2 percent.

Because of the insufficient supply of machines to workers performing materials-handling processes manual labor has to be used in the principal production operation, and some of its workers are diverted to auxiliary operations. The level of mechanization of the work of workers engaged in auxiliary operations in the industrial sector is ten twenty-thirds of what it is in principal production operations. The discrepancy in levels of mechanization and automation between the principal and auxiliary production operations is holding back the overall rise of labor productivity, is detracting from the use of equipment, is increasing expenditures of labor and is reducing the efficiency of capital investments.

According to the last census run on the number of workers by occupation, as of 15 May 1975 there were about 1.9 million stevedores, auxiliary workers and workers moving materials and feeding them to work stations and handling loading tackle and slings. Though over the last 10 years the relative share of workers in these occupations has dropped 0.7 percent, their absolute number has grown by 230,000. In machinebuilding workers performing lifting and moving, loading and unloading and warehouse handling operations have a share of 14 percent, and almost two-thirds of them are engaged in manual labor.

The relatively high share of manual labor is persisting not only because of the lack of the necessary equipment and machines, but also because of shortcomings in the organization of production and planning. The potential in this area is large.

In Latvian SSR, for example, the work of more than 300,000 workers is to be mechanized by the end of the 5-year period by carrying out a specific program aimed at reducing the share of manual and heavy physical labor. At the Gor'kiy Motor Vehicle Plant two large warehouse buildings equipped with automated multitier racks were put into service, making about 2,400 workers available for the principal production operation.

We should note that potential for increasing mechanization has been exhausted to a considerable degree in the principal production operation thanks to the perfection of manufacturing processes and the introduction of highly productive new machines and systems of machines, whereas the potential is great in materials-handling operations, and realizing this

potential yields the largest gain in efficiency. For example, in machine-building capital costs to convert one worker from manual labor to mechanized labor in materials handling are approximately 2,000-5,000 rubles, and the payoff period for these costs is between 6 months and 2 years, while in the principal operation the costs are 8,000-10,000 rubles, and the payoff period is 5 or 6 years.

Increasing the amount of mechanical equipment available to workers employed in lifting and moving materials, loading and unloading and warehouse operations by means of intensive saturation with progressive models of materials-handling equipment and machines and making a portion of the work force engaged on these operations available for other work have now become especially relevant. This is not only an economic problem, but also a social problem which can and should be solved in a short time.

Speaking of the 25th CPSU Congress, A. N. Kosygin said: "I would like to emphasize once again that in the 5-year plan we will have to envisage special assignments for the production of equipment that sharply reduces manual labor and guarantees a rise of labor productivity in all sectors. The output of equipment to mechanize laborious and heavy operations in construction, lifting and moving materials, loading and unloading and warehouse handling will approximately double."*

In our country the volume of production of equipment to mechanize the handling of materials has been increasing every year. In the Ninth Five-Year Plan alone it increased 1.5-fold, and in 1975 amounted to more than 2 billion rubles.

During the last 5-year period consumers of materials-handling equipment received 147,000 electric cranes of various models and types, more than 132,000 boom cranes, about 2 million meters of overhead chain conveyors and 6 million meters of belt conveyors, including about 320,000 meters of overhead pusher conveyors with automatic routing of materials, about 142,000 internal-combustion and electric lift trucks, etc. This made it possible to raise the level of mechanization of materials-handling operations in industry and construction and to make about 100,000 workers employed in heavy manual labor available for other work.

The only way of reducing unskilled manual labor is to mechanize and automate these operations and to overcome the present gap in the technical level of the principal production operation and auxiliary operations.

In 1973 the CPSU Central Committee and USSR Council of Ministers adopted a decree aimed at faster development of production and higher technical level of equipment for mechanizing auxiliary operations in industry, construction and transportation. It recommended that the volume of production of machines to mechanize and automate auxiliary operations increase 1.7-2-fold in 1974 and 1975 over the 1970 level. USSR ministries and

* "Materialy XXV s"yezda KPSS," p 138.

departments and councils of ministers of union republics were ordered to draft measures to reduce heavy manual labor of workers engaged in hoisting and moving materials, loading and unloading and warehouse operations, above all in operations where women are employed, etc.

Provision was made to organize the production of automatic manipulators with programmed control (industrial robots), overhead electric cranes, bucket loaders, general-purpose electric lift trucks, general-purpose internal-combustion forklift trucks, and specialized stacker cranes of various types and related loading devices.

The decree made it an obligation of the State Committee for Science and Technology to join the relevant head ministries in developing and implementing in 1973 measures to further develop and strengthen research and development organizations developing machines and equipment for mechanizing auxiliary operations.

But the assignments outlined were slow to be performed. Production of materials-handling machines and equipment is not covering the rapidly growing need for them in the sectors of the economy.

Responsibility has been put on the Ministry of Heavy Transport Machinebuilding, the Ministry of Construction, Road and Municipal Machinebuilding, the Ministry of Electrical Equipment Industry and the Ministry of Automotive Industry for developing the production of materials-handling equipment, for meeting the needs of the economy for such equipment, for conducting a unified technical policy, and also for achieving an adequate technical level and quality of the machines produced. But the ministries we have mentioned have not taken adequate measures to carry out the assignments which were given, which include the building of production capacities specialized in the manufacture of materials-handling equipment.

The ministries' underestimation of the tasks of building the facilities to manufacture these machines has had the result that problems are not being solved in organizing the production of heavy-duty belt conveyors, lift trucks, industrial tractors and pertinent assemblies and equipment, self-propelled cranes with a high lifting capacity, pneumatic conveyors, and warehouse equipment. Of the plants scheduled for construction work has begun on only five--the Abakan Conveyor Plant, storage battery plants in Velikiye Luki (Pskovskaya Oblast) and Dzhizak (Syrdar'inskaya Oblast), a plant for manufacturing trucks for transporting cement in Tuymazy (Bashkirskaya ASSR) and a branch of the Riga Power Machinebuilding Plant in Rezekne. The level of fulfillment of assignments envisaged by the decree for putting new capacities into operation, for assimilation of capital investments and for construction and assembly work remain too low.

Great importance is now being given to broad introduction of container shipments and creation of specialized machinery for loading containers, especially in the transportation sector. It is calculated that shipment

of only 1 million tons of freight in containers will make it possible to release 1,500 workers from loading and unloading, to reduce by more than 10 million rubles the operating costs of transporting and processing freight, and also to achieve a savings of approximately 4,000 tons of metal and 200,000 cubic meters of lumber because of the reduced need for warehouses, containers and rolling stock. At the same time the freight will move 30-40 percent faster. The cost of the container is entirely repaid in 1 year. The annual saving is 2,000 rubles from the use of a 10-ton container and 4,200 rubles for a 20-ton container.

As production becomes more intensive, the role of warehouse management is considerably enhanced; it is becoming one of the elements in organization of the production process and regulator of the pace of operation of all subdivisions of the enterprise or association. Automated warehouses (sklady-avtomaty) with programmed control, rack-container automated warehouses, stacker cranes for use with racks, and pallet-operators with programmed control. For example, an automated warehouse conveyor system has been developed in the Ministry of Machine Tool and Tool Industry for receiving, storing and interoperation movement of parts being machined and of production gear and tools, as well as for loading and unloading operations at work stations.

The principal reason for the lag in construction of many enterprises for production of materials-handling equipment, which are supposed to go into production even in 1980 is that the ministries have hardly allocated any capital investments at all for these projects. For example, capital investments of the Ministry of Automotive Industry for construction of such enterprises was only 0.5 percent of total capital investments allocated to the ministry. Plans for construction and installation work on facilities for materials-handling machinebuilding are not being fulfilled by ministries which figure as contractors (USSR Ministry of Heavy and Transport Machinebuilding, USSR Ministry of Construction and USSR Ministry of Industrial Construction). In 1976 assignments given in annual plans for construction of 24 projects were not fulfilled at 14 of them; in 1977 the figure was 19, and in 1978 it was 20 projects.

Among the reasons for this situation are the absence of technical documentation for construction and expansion of enterprises to manufacture materials-handling equipment. For example, at the present time construction plans and estimates have not been approved for 33 of the 66 projects.

In spite of the increase in the output of materials-handling equipment, the economy's need for it is not being satisfied at a level above 70 percent, and within this figure only 35 percent of the demand for stacker cranes, 27 percent of the demand for internal-combustion lift trucks and 33 percent for electric lift trucks is being met.

Materials-handling machinebuilding is lagging behind machinebuilding as a whole in its development. According to data of the USSR Central

Statistical Administration, average annual growth rates of output in machinebuilding were 11.7 percent in the Eighth Five-Year Plan, 11.6 in the ninth, and 9 percent in 4 years of the current 5-year period, whereas they were 8.4, 7.5 and 6.0 percent, respectively, in materials-handling machinebuilding.

There are quite a few reasons why the industry has been lagging behind the growing needs of the economy for materials-handling machines and equipment. Among them are the inadequacy of the production capability and the fact that enterprises producing materials-handling equipment are scattered among various departments. That makes it extremely difficult to conduct a unified technical policy and to speed up technical progress in this industry. For instance, the principal materials-handling machines and types of equipment are concentrated at 52 enterprises of the Ministry of Heavy and Transport Machinebuilding and 50 enterprises of the Ministry of Construction, Road and Municipal Machinebuilding, and in addition there are another 300 enterprises under 45 ministries and departments manufacturing equipment for materials-handling operations. The number of plants under different ministries and departments is still increasing. Research and development work in this field is done by 140 organizations belonging to different ministries.

An equally important factor holding back the industry's development is the low level of specialization and concentration of enterprises and of research and design organizations. At many plants materials-handling equipment is manufactured on the basis of single-unit unspecialized production with inadequate manufacturing facilities. The small size of the production series and the scattered nature of production operations producing products of the same kind detract greatly from economic efficiency and tend to make the product more expensive.

The share of specialized enterprises manufacturing materials-handling equipment is only 15-18 percent of the total number of enterprises engaged in its manufacture. That is why many enterprises of other industries have been forced to manufacture materials-handling equipment on a one-time basis, usually to meet only their own needs. The reason for this is that the lack of materials-handling machines stands in the way of replacement of worn-out and obsolescent machines, which represent a sizable portion of these machines now in service. Products are being manufactured in small lots at enterprises which are not specialized, and this increases the cost considerably. At specialized plants the production cost of materials-handling machinebuilding is one-third lower, while quality is considerably higher.

Often one enterprise duplicates another manufacturing the same kind of product. For instance, the Dnepropetrovsk Machinery Plant of USSR Ministry of Power and Electrification and the Materials-Handling Equipment Plant imeni Kirov of the Ministry of Heavy and Transport Machinebuilding (Leningrad) manufacture overhead traveling cranes with the same parameters.

The Teplokhod Plant of RSFSR Ministry of River Fleet (Gor'kiy) and the Plant imeni Kirov are engaged in the production of one and the same portal cranes. The Yenakiyevo Boiler Machinery Plant of USSR Ministry of Installation and Special Construction Work, the Samtredia Machinery Plant of USSR Ministry of Food Industry, and the Gorokhovets and Poleyaya materials-handling machinery plants are manufacturing the same 1-ton belt conveyors in small volume.

Whereas in 1965 19 enterprises were engaged in the manufacture of gantry cranes, in 1975 there were 31; for truck cranes these figures are 12 and 35, respectively.

The level of product standardization in the industry is very low, even though industrywide standards have been drafted and approved. For example, in 1976 about 67 percent of the parts (the total number of parts is 68,000) for the 59 prototypes of materials-handling equipment built were original parts.

Moreover, the composition of materials-handling equipment is lagging behind present-day requirements. For example, the relative share of such highly progressive pieces of machinery as external railless transport in this output is about 18 percent. This is arousing concern, since external transport is becoming increasingly important and occupies one of the leading places in mechanizing laborious operations in the economy. It has a number of advantages over materials-handling equipment of other types, including the following:

- i. universality, which is determined by the large number of replaceable load-seizing attachments which may be mounted;
- ii. mobility--external transport does not require rails or power transmission lines; the machines can work anywhere where there is a hard surface;
- iii. practicality--construction fabrications of shops and warehouse buildings becomes simpler and cheaper.

The technical level of materials-handling equipment is also low, the reason for which can be found both in the inadequacy of the facilities of research and development organizations and their experimental subdivisions, as well as in the lack of a coordinating center for conducting a unified technical policy and the poor quality and limited list of components. Neither the procedure for planning the production of materials-handling equipment, nor the organizational forms for managing that production meet the growing needs of the economy.

There are complications in correcting these shortcomings because materials-handling machinebuilding has not been formed as a sector in itself as yet, it is an intersector industry, since materials-handling equipment is

manufactured and used in all sectors and industries of the economy. The time has evidently come for organizing a new branch of machinebuilding, just as power machinebuilding and machinebuilding for animal husbandry and livestock feed production were formed a few years back. Even though facilities for production of materials-handling equipment still does not afford the opportunity of doing this, we must even now, in our opinion, decide the question of management of the production of materials-handling equipment, a topic referred to in the decree of the CPSU Central Committee and USSR Council of Ministers entitled "On Improving Planning, Increasing Impact of Management on Production Efficiency and Quality," which calls for the drafting of a comprehensive program specifically aimed at reducing the use of manual labor. There is good reason to build a specialized production capability and also to organize a main administration for materials-handling equipment made up of associations producing certain types of equipment.

Improvement of the organizational forms for management of the production of materials-handling equipment and its unified direction are indispensable to the development of specialization, to creation of conditions for conduct of a unified technical policy and to speeding up technical progress in this industry.

The main directions of technical progress in materials-handling machinebuilding over the immediate future should be the following:

- i. creation of complexes and systems of machines which mechanize and automate movements of materials throughout the entire manufacturing process--from arrival of raw materials to shipment of the finished product;
- ii. improvement of the composition of materials-handling and warehouse equipment in various ways, including increasing the output of equipment for continuous movement of materials;
- iii. expansion of the list of materials-handling equipment, including equipment designed on the basis of standardized assemblies, and standardization of the basic models of equipment and machines;
- iv. sizable augmentation of the output of machines with remote and programmed control;
- v. production of machines which combine materials-handling operations with processing operations;
- vi. improvement of the technology of in-transit processing of materials and also acceleration and expansion of research and experimental work to create machines with effective new methods of altering materials in transit.

The effectiveness of mechanization and automation of the principal production processes depends to a decisive degree on equipment for hoisting, moving, loading, unloading and storing materials which is available at the input, at the output, or at the junction of production units, which should function in the same rhythm. Failure to meet this requirement detracts from the effectiveness of mechanization and automation of the principal production operation and its processes and tends to upset synchronization of the production cycle and to generate unjustified costs.

A sharp reduction of manual labor is unthinkable without a comprehensive study and planning of mechanization of materials movement processes on the basis of an accounting system which reveals "bottlenecks" in production and makes it possible to draft organizational and technical measures and to plan the development of mechanization. Scientifically sound methods of evaluating the state of mechanization are accordingly taking on great importance. One of the most effective directions for solving this problem, in our view, is to develop a unified intersector method of evaluating and planning mechanization of the processes of the movement of materials.

Various methods are currently in use in the industrial sector, so that the data cannot be compared. That is why USSR Gosplan prepared the Temporary Guidelines on Methods of Drafting Plans for Mechanization of Operations in the Movement of Materials at Enterprises of Machinebuilding, which establish a unified system of indicators and a single approach to their determination, and a terminology, accounting and planning for all branches of machinebuilding.

The basis of the guidelines concerning methods is the system of indicators, which is interrelated to the indicators reflecting the principal production operation and makes it possible to evaluate the quantitative and qualitative aspects of mechanization of the processes of movement of materials. Records would be kept of the absolute indicators: the volume of flows of materials, the number of handling operations along all flows; the size and occupational composition of the work force involved in materials handling; the amount of equipment and machines available in physical and value terms; and costs in these processes.

The method expands and clearly defines the limits of movement of materials, and it recommends that the volume of work in the handling of materials be measured in ton-operations, the term "operation" to be given a standard definition.

Classification of the composition of the list of equipment and machines, of workers employed in these operations, and of costs of movement of materials makes it possible to accomplish the following:

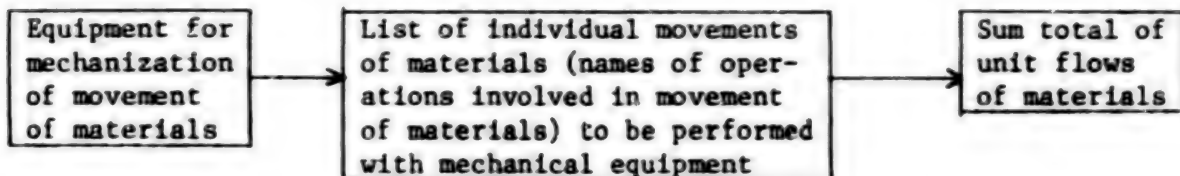
1. to determine the condition and development trend of different types of equipment and machines for handling of materials;

- ii. to decide the question of the workers needed for each group; to develop optimum organization and mechanization of their work with greater ease and to reduce low-output manual labor in these operations through full mechanization;
- iii. to discover the actual costs, to determine the efficiency of mechanization and automation of processes in the movement of materials, and to evaluate live and embodied labor;
- iv. to organize more economically and efficiently processes in the movement of materials and to select mechanization schemes and in-transit processing methods which ensure minimum cost of processing materials in transit by comparison with other alternatives.

It is recommended that the mechanization of processes in the movement of materials be evaluated by a system of indicators including the following: coefficients of mechanization of the movement of materials and freight flows and of the quality of mechanization of processes and the work of the workers, and coefficients of containerization and palletization; the cost per ton of processing materials in transit; the ratio of the number of workers engaged in the movement of materials to the total work force; costs of movement of materials in the production cost. The system of indicators will afford the following possibilities:

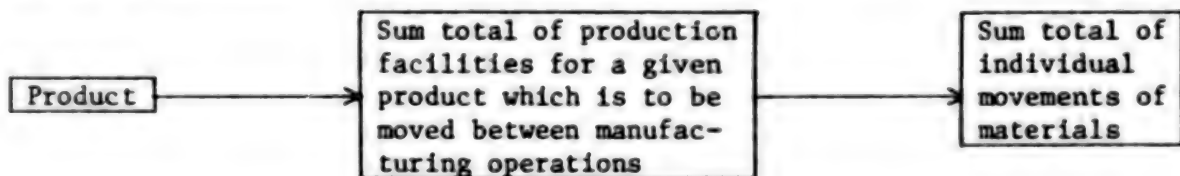
- i. objective and comprehensive evaluation of the state of mechanization of the processes of movement of materials and thorough analysis of the impact of various factors on the effectiveness of mechanization;
- ii. determination of "bottlenecks," which is crucial to further reduction of costs in these processes, and also determination of ways of reducing manual labor and of introducing full mechanization and automation;
- iii. evaluation of the economic efficiency of measures toward improved organization and mechanization of the processes in the movement of materials.

Because of the complexity of recordkeeping and major organizational difficulties a procedure has still not been developed in all methods for evaluating the mechanization of movements of material within the shop. A method developed in USSR Gosplan calls for this procedure to be performed, first, on an area basis, i.e., within the section, department, or shop; second, with respect to every piece of equipment relevant to the movement of materials in the given subdivision of a shop. Flows of materials performed by mechanized means would be calculated and recorded according to the following scheme:

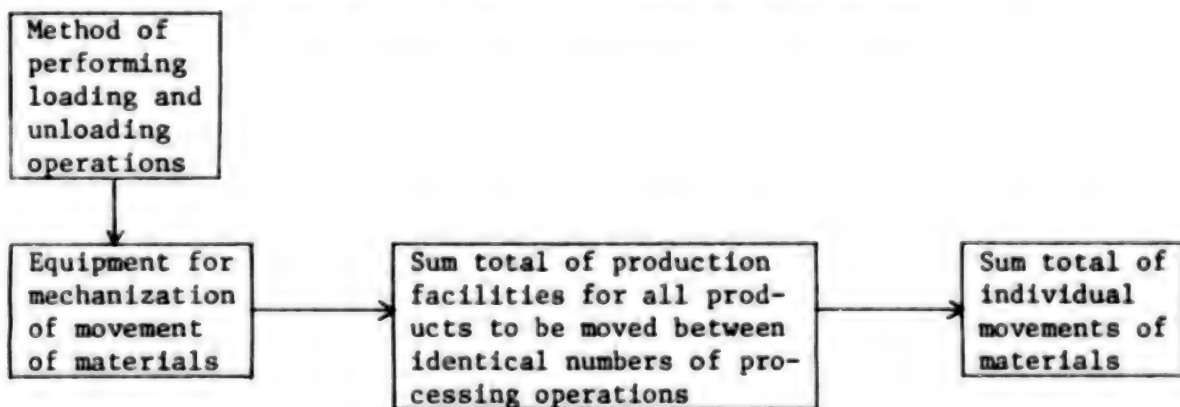


The possibility of using this scheme is based on the idea that each piece of equipment and machine for movement of materials performs one mechanized operation in the individual flow of materials.

Flows of materials performed manually are calculated and recorded according to this scheme:



For conveyor systems which unify two or more processing operations, calculations are made and records kept according to this scheme:



This method has now been tested at 60 enterprises in 11 machinebuilding ministries.

Mechanization of production and the problem of reducing expenditures of manual labor in the economy require a great deal of attention from economic planning authorities and staffs of ministries and departments.

COPYRIGHT: Izdatel'stvo "Ekonomika," "Planovoye khozyaystvo," 1979

7045
CSO: 1823

TRANSPORTATION

DELAY OF ELECTRIC LOCOMOTIVES CRITICIZED

Moscow GUDOK in Russian 6 Dec 79 p 2

[Article by L. Turov, GUDOK correspondent]

[Text] Like any solicitous host, the collective of the Tselinograd Locomotive Depot, dispatching its electric locomotives to the Alma-Ata Railroad, waits impatiently for them to return home. This is also understandable--the need for them has increased with start up of the electrified Tselinograd-Yermentau section.

However, the workers of the adjacent Karaganda Division are delaying the electric locomotives together with their crews above the established time. For example, more than 210 locomotives were overdelayed on this division during 15 days of November.

The managers of the Tselinograd Depot, the division and the railroad have frequently brought the attention of their neighbors to the intolerability of this situation. In October, 13 orders for the immediate return of electric locomotives delayed at Karaganda were sent by the locomotive administrative board to the Alma-Ata Railroad. An order of deputy minister V. F. Sosnin was dispatched on this same problem on 4 Nov to the chief of the Alma-Ata Railroad Ye. Buranbayev. But there is no rush at the Alma-Ata Railroad to carry it out.

And there is a constant shortage of locomotive crews at Tselinograd Depot and operation of the junction and the Tselinograd-Anar Line is difficult. The section that has just been electrified and turned over for operation is only being used by 18-20 percent. Up to 46 electric locomotives with their crews are continuing to be delayed daily at Karaganda.

6521

CSO: 1823

TRANSPORTATION

NOVEMBER FIGURES FOR RAILROAD TRAFFIC

Moscow GUDOK in Russian 18 Dec 79 p 2

[Article: "Train Schedule: November Results"]

[Text] In November the best results with regard to carrying out the passenger-train schedule were achieved by the group of the Transbaykal' Railroad. Here, in dispatching these trains, the schedule has been adhered to at a level of 99.5 percent, while in regard to trains in transit it achieved a level of 99.7 percent. Trains ran almost according to schedule on the October, Baltic, Belorussian, Southeastern, Dnieper, and Central Asian Railroads.

Throughout the network as a whole 93.7 percent of the long-distance and local passenger trains ran on schedule and with a reduction of lateness.

In comparison with the corresponding period of last year, there was improvement in the running of passenger trains on schedule on the Northern Caucasus, Southwestern, Kyubyshev, and Alma-Ata Railroads.

The through traffic of passenger trains was unsatisfactorily organized on the railroads of the Urals and Siberia. Here the schedule violations were caused, for the most part, by shortcomings in the maintenance of track, cars, and locomotives. The group of the Transcaucasian Railroad did not provide traffic safety for passenger trains.

The best results in organizing freight traffic were attained by the group of the Dnieper Railroad, where the through movement of trains on schedule was provided at a level of 95.6 percent.

More than 90 percent of the freight trains ran on schedule on the Belorussian Railroad, as well as on the Gor'kyy and Moldavian Railroads. There was an improvement in the adherence to the schedule in comparison with November of last year on the Moscow, Gor'kyy, Northern, Southeastern, Volga, and Kuybyshev Railroads.

Throughout the network as a whole, however, the freight-train schedule was adhered to by only 79.2 percent, which is somewhat lower than for the same period of last year.

The principal causes of reduction in freight-train traffic are the following: poor maintenance of locomotives and cars, the presence of warnings on speed limits not provided for by the schedule, non-reception by stations, and delays at junctions.

2384

CSO: 1823

TRANSPORTATION

IMPROVEMENT IN CONDITION OF RAILROAD TRACK

Moscow GUDOK in Russian 19 Dec 79 p 2

[Article: "Track Condition Improved"]

[Text] In November the weather conditions did not pamper the track-workers. A large amount of precipitation fell on many railroads in the European parts of the USSR; thinning out of the ballast layer and spillage began to occur.

The trackworkers applied some effort to work their way out of a difficult situation. A more precise organization of operations along with regular check-ups and inspections of the rails allowed the timely elimination of the defects which had appeared. The most substantial results were achieved on the Gor'kyy, Southern, Kuybyshev, and Far Eastern Railroads, where the number of kilometers maintained in an unsatisfactory condition was significantly reduced. The situation was improved on the Southwestern, Azerbaijanian, and Western Kazakhstan Railroads. As before, there were high labor indicators among the trackworkers of the Eastern Siberian, Belorussian, Transcaucasian, Northern, Far Eastern, and Sverdlovsk Railroads. The results which they achieved have allowed us to raise the traffic speeds over a considerable extent of track by eliminating the warning signals which used to be in operation. Throughout the system as a whole, such speed limits were abolished over an extent of 575 km. At present on the Belorussian, Baltic, Donets, Northern Caucasian, Azerbaijanian, Alma-Ata, Eastern Siberian, Transbaykal, and Far Eastern Railroads there are significantly fewer speed limits than provided for by the train traffic schedules.

Special praise is due to the trackworkers of the Transbaykal Railroad, who have completely guaranteed the adherence of passenger trains to the traffic schedules. In November not a single train was off schedule for reasons depending on track maintenance. In this sense the situation is also quite good on the Belorussian, Gor'kyy, Moldavian, October, and Baltic Railroads.

At the same time, however, there are groups which are not guaranteeing the proper controls over the track condition and which are not providing the timely elimination of the deficiencies which are appearing. For this reason alone a breakdown was permitted in November on the high-freight-density,

single-track section of the Mezhdurechensk stretch of the Krasnoyarsk Railroad; there were derailments of rolling stock which caused a great deal of reduction in train traffic. There are also serious shortcomings in track maintenance in the Kemerovskaya and Tselinnaya Railroads, where in November there was again an increase in the number of unsatisfactory kilometers.

According to the results of operations in November, the three top places were occupied by the trackworkers of the Eastern Siberian, Belorussian, and Northern Railroads. The three bottom places were occupied by the groups of the Tselinnaya, Kemerovskaya, and Krasnoyarsk Railroads.

2384

CSO: 1823

TRANSPORTATION

DECEMBER PERFORMANCE OF RAILROADS

Moscow GUDOK in Russian 21 Dec 79 p 1

[Article: "Take a Good Running Start"]

[Text] This December was very intensive for the railroad workers in the volume of transport work. The average daily load was supposed to be increased by almost 9,000 rail cars compared to November and by 18,000 compared to December of last year. Practically all regions of the network had a sufficient stock of rail cars and locomotives at their disposal by the end of the month. And compared to a similar period of last year, the operational situation was somewhat better. The average annual volume of dispatch as a whole was increased.

However, the task is not presently being fulfilled in a number of decisive items. Very little time remains until the end of the year and a great deal of work must still be done--a good start must be given for the first month of the final year of the five-year plan. The main task remains interrupted delivery of coal to customers, especially from the Kuzbass and Ekibastuz. Delivery of tank cars in the established volume and dispatch of ore-metal-lurgical raw material also require serious attention. Supply of the machine-building enterprises, especially for automobile and agricultural machinery transport, should also be intensified. Organization of grain shipments, consumer goods and foodstuffs must be improved.

Solution of all these problems is impossible if all the reserves are not put into operation and if we do not learn to utilize the loading resources more efficiently. Unfortunately, organizing work does not yet provide this.

More than 40,000 rail cars above the norm have now been accumulated on the southern railroads and the transport task in this region is not being fulfilled. On the whole, the average daily debt of these railroads for exchange of rail cars at the junctions reaches 5,600. The situation on the North Caucasus, Azerbaijan, Transcaucasian, Southwestern and L'vov railroads has become especially severe. The transport task is not being fulfilled with a large surplus of stock on the central railroads as well, of

which the Gor'ky Railroad has a debt of 2,300 rail cars and the Moscow Railroad has a debt of 900 rail cars.

The situation has improved somewhat on the whole on the eastern railroads, but many transient cars are being delayed as before in the regions of Tayshet, Mezhdurechensk, Petrovskiy Zavod and Arkhara.

Unloading is causing the most serious alarm. The task is being underfulfilled by an average of 9,000 rail cars per day throughout the system as a whole. The requirements on the dispatchers, on whose conscience are many losses, must be intensified but guilt can also not be taken away from the railroad workers, since the tasks on local freight transport are not being fulfilled on many railroads. Matters are especially poor on the Far Eastern, Sverdlovsk, Transcaucasian, Azerbaijan, Baltic and Volga railroads. Moreover, the weather is now good everywhere and this time should be utilized to the maximum for intensified work. By increasing shipments during the third 10 days of December, one must prepare to begin the first month of the new year in an organized manner. One must also not forget the lessons of last winter when the large transport debt which occurred during the last days of December aggravated the January difficulties related to the severe cold and snowstorms. And now the first month of the year will set the tone of all work until practically next December and maximum efforts must be applied now in order not to pay later for the present lack of organization.

6521

CSO: 1823

TRANSPORTATION

PASSENGER TRAIN DELAYS REPORTED

Moscow GUDOK in Russian 21 Dec 79 p 2

[Article by A. Drozdov, deputy engineer: "Regardless of the Schedule, There is Delay"]

[Text] An anxious knock was heard at the window. As was my custom, I immediately looked at my watch and was horrified--I had overslept! But my fears were useless, the person who summoned the locomotive brigades reported that I was to leave at 15:10.

I arrived at the office of the depot duty officer, but for some reason he was in no hurry to give us a routing--he obviously already knew the operational situation of the line. We sat for 1.5 hours with the engineer awaiting work. Finally, we went to take over the locomotive. We did not get on express train No. 3 because it had already been delayed by four hours. And this is from Novosibirsk! We waited for 2.5 hours at the control station before the arrival of express train No. 37 from Tomsk to Moscow.

We coupled to the cars, checked the brakes and began to move. But the first crossing beyond the route light signal had a yellow light, while the exit signal was red. The station duty officer also did not think about driving out the express train, he "dispatched" a pair of freight trains from the station. This is how we travelled with stops at the crossings before Tatarskaya Station. And just as many freight trains were "thrust" in front of us to the station line ahead with several tracks of the opposite line free. And before Omsk we were delayed an additional three or more hours!

Why do the traffic controllers not concern themselves about dispatch of passenger trains? We very frequently see when passing stations that additional tracks are free, but no freight trains are sidetracked. And what's more, the traffic controller somehow dares to replace the freight traffic brigade after eight hours of work, while no one replaces us even after 12 hours of work. Where is the concern about the working conditions of the electric locomotive engineers and about increasing the traffic safety of passenger trains.

6521

CSO: 1823

TRANSPORTATION

BRIEF SUMMARY OF RAILROAD TRANSPORT PROBLEMS FOR 1979

Moscow GUDOK in Russian 22 Dec 79 p 2

[Article by M. Karmanov, deputy chief of the Karasuk Division of the West Siberian Railroad: "Drudgery The Year Round"]

[Text] The massive shipments of agricultural goods during the harvest campaign dictate to transport their own tempo. The grain-harvesting season is intensive freight and operating work for most railroads. The main product year round for us is grain.

The tasks for August and September were much lower this year than in March, April and May and the grain shipping plan was five times higher for November than for August. In short, the "peak" of grain shipments can begin during the most "unexpected" month in our division. And this means that the collective and all equipment should be in constant readiness.

The "hottest points" this fall were two stations in Pavlodarskaya Oblast--Valikhanovo and Mynkul'. According to the plan coordinated with the grain procurement agencies, we were supposed to haul out 70,000 tons of grain from there during the harvest season. But we had to transport twice as much: the two large agricultural regions of Northern Kazakhstan turned over their grain to us because of difficulties at the stations of the Tselinnaya Railroad servicing them. There was no time to argue about "our" and "their" work. The mountains of grain near the station tracks grew rapidly while Autumn in our locales is short and perfidious--it can even snow in September and there is no point in talking about the rain.

The schedules of rail car preparation, transport and distribution of box-cars had to be rearranged on the run and additional diesel locomotives had to be allocated. The collectives of Mynkul' and Valikhanovo stations, the dispatchers of the division and the rail car workers of the preparation terminals at Karasuk, Kamen'-na-Obi, Slavgorod and Kipino coped honorably with these difficult tasks. The workers of the grain-shipping divisions know well how difficult it is to select rail cars suitable for grain from those arriving for adjustment. Our rail car workers repaired up to 80 percent of the delivered rolling stock during these months!

The grain elevators at Chistoozernaya and Kupino stations were also unable to handle all the grain of the abundant harvest. The grain had to be shipped in bundles temporarily. And shock work had to be organized here as well. Not a single kilogram of grain has now been left under the open sky, while Chistoozernaya and Kupino stations have doubled the plan for grain shipment in October and November.

Snow is now lying on the fields and all the grain at the stations of the grain-receiving enterprises is now under cover. The drudgery in the countryside is finished but we must still ship and ship this grain to the next harvest season. Moreover, the year is ending and it is time to total up the preliminary results. The annual plan was fulfilled by the end of September and the increased pledges to transport an additional 50,000 tons of grain were fulfilled by the middle of October. We now have more than 200,000 tons on our account above the plan.

It would seem that everything is fine but we feel it is too early to celebrate. Because the annual plan is only a general reference point and the situation has developed not quite favorably during some months and we have not always fulfilled the grain shipment tasks. For example, the lag was 2,000 tons in March and 3,000 tons in June. True, the tasks were exceeded as a whole during each quarter but when there is no rhythm in organization of shipments one cannot talk about success.

Things were especially difficult in November. The increased task was not supported with a supply of boxcars and as a result the debt increased by more than 80,000 tons during this one month alone. We had a shortfall of 1,500 or more railcars from our neighbors due to complex adjustment--with empty cars and with local freight. The question is frequently asked in these cases--and how are we utilizing the rolling stock ourselves and are all reserves operating? There are no special complaints against us here. We did not make thrifty use of our own stock and the November debt was even higher. Since the beginning of the year, the division has been supported with boxcars according to the plan only two months--February and May. We had an average shortfall of 40 rail cars daily during 11 months. And under these conditions we fulfilled the annual plan and socialist pledges ahead of schedule, while the increased task was also overfulfilled during 7 out of 11 months.

We frequently talk about reserves. The components here are small, but one thinks important--this is consolidation of the technical base and an increase of people's skills. We have done a lot during the past few years to see that the rail cars are prepared more rapidly and better for grain, that the stations have become more maneuverable and that diesel locomotive repair is of higher quality and to reduce to a minimum warnings about reduction of speed. And we should talk especially about being masters of our own trade.

The shift of the division duty officer of the railroad Ye. S. Starostin is working stably and reliably--it passes unit trains with grain and empty

cars at a rate of 1,200-1,300 kilometers per day. It is pleasant to look at the schedules of train dispatchers Yu. N. Kulinich and D. F. Kuchmistov --there are more flags here than on any of their comrades which denote agreements concluded with the engineers for one trip. A. I. Karpenko and S. S. Gorbatyuk who make up the trains, form up the grain unit trains at high speed. A. M. Kikot', Mynkul' station chief, and N. F. Dolgikh, Kupino Station chief skillfully organize the complex competition of their collectives with the grain procurement agents. Not a single rail car is rejected at the grain elevators if the complex brigades of V. N. Korobkin or V. K. Pakhomov prepared them. Receiver-checkers G. P. Gudova, L. I. Stuliy and L. I. Koryakina carry out grain loading only in a consolidated manner. In short, there are skilled masters and people who have long recognized what grain is.

We all know that grain is not easily acquired. It is difficult in the field and it is also difficult during transport. It is good that the rail car stock is now being supplemented with grain carriers. Grain transport is 100-percent mechanization of loading and unloading. Grain transport is minimum time for preparation prior to loading and this prevents losses during shipments. The fears of some specialists are useless that these rail cars will operate only during the harvest season and that they will stand on the sidings for the greater part of the time. Ours is a vast country and people are working both in the far north and in Siberia where grain is constantly shipped. And the drudgery does not end with the onset of winter on the railroad--we have it the year round.

6521

CSO: 1823

TRANSPORTATION

AEROFLOT PILOT TRAINING SCHOOL DESCRIBED

Moscow KRASNAYA ZVEZDA in Russian 23 Dec 79 p 4

[Reader's letter and response by correspondent V. Khrustov: "Where They Train Aeroflot Pilots"]

[Text] Like many of my comrades serving in the Air Forces, I truly have come to love aviation and after transfer to the reserve I would like to become a pilot in civil aviation. If possible, tell us about the Aktyubinsk school which is training pilots for this service. [Signed] Sgt V. Kolotov.

One after the other they came up on the stage to receive their travel orders to the skies—diplomas for completion of the Aktyubinsk Advanced Civil Aviation Flight School.

Here it is—a new replenishment for the twice-decorated Aeroflot. It is also qualitatively new: for the first time in the entire history of the country's civil aviation, pilots with advanced engineering education, whose high skill enables them to immediately sit at the controls of a modern aircraft such as the jet Yak-40, have been trained. After additional training, 30 of the best, including 26 graduates who received honors diplomas, will be flying as Tu-134 copilots in half a year. Previously, you know, 8 to 10 years were required for a pilot to fly a jet aircraft, and he began, as a rule, with an An-2.

The path to the skies has become shorter, but it has not been made easier. Behind the graduates of the Aktyubinsk Advanced Flight School are 4 years of intensive study and the first solo flights.

Today the school has everything necessary at its disposal to train highly skilled flight personnel successfully. Its lecture halls, training and scientific laboratories, and simulator rooms have been provided with the most modern equipment. There are various mockups and test stands, many of which were made by the students, in the aircraft engine and airframe structures, electronics, and fuels and lubricants laboratories.

The aerodynamics laboratory has its own wind tunnel. There also are a hall for computer equipment and a language laboratory in the school (an Aeroflot pilot must know foreign languages; after all, the extent of our overseas routes is still increasing).

In short, graduates of the Aktyubinsk Advanced Flight School are receiving very well-grounded engineering knowledge, as in any technical VUZ.

The school also provides good flight training. The skills of piloting technique are developed on special simulators, which makes it possible to simulate various flying conditions on the ground, and they are consolidated in the air—first in the Yak-18T trainer, and then in the jet Yak-40. All graduating students receive a class rating.

Now a few words about those who left the school recently and have replenished the glorious Aeroflot family. Four years ago they were students, workers and kolkhoz farmers, and soldiers in the reserves. Incidentally, the latter are accorded special attention at the school: here they value the disciplined, tempered persons who have gone through the army school of courage.

The story of young communist Aleksandr Cherkasov, a reserve senior sergeant and former tank commander, is very typical in this regard. By the way, he now has another military rank—reserve lieutenant—and another military specialty—pilot. Cherkasov is from the Far East. He completed a tekhnikum, prepared An-2 instrumentation equipment for flight, and flew a Yak-12 in the Khabarovsk Flying Club. The destiny of his parents also has been linked with Aeroflot.

The continuity of generations is an old tradition among aviators, and it is sensed strongly at the school. Valeriy Utkin's father served in the Air Forces, and he is now a reserve officer. Well, he can be proud of his son: after completing the school with honors, Komsomol V. Utkin received an assignment to Riga, and soon he will be flying as copilot in a Tu-134.

Leninist scholarship student and candidate member of the CPSU Aleksandr Kalashnikov also was the pride of the school throughout all 4 years. He has been remembered here as a Komsomol activist; he succeeded not only in doing excellently in his studies, but in conducting scientific work as well—he headed a student scientific and technical society.

All aspects of life at the school cannot be described in a brief newspaper article, of course. By the way, the school will gladly answer any of your questions; they may be written at this address: Aktyubinsk-19, Avenue A. Moldagulovoy, AVLUGA [Aktyubinsk Advanced Civil Aviation Flight School].

8936

CSO: 1823

TRANSPORTATION

AEROFLOT 1979 ACCOMPLISHMENTS, 1980 PLANS DISCUSSED

Moscow IZVESTIYA in Russian 26 Dec 79 p 4

[Report by V. Belikov on press conference held by A. Nazarov, first deputy minister of civil aviation: "Aeroflot: The Olympics Year"]

[Text] Following the tradition of many years, Aeroflot holds a press conference during the final days of the year for the journalists of central newspapers, radio and television. Such a meeting took place on 25 December with A. Nazarov, first deputy minister of civil aviation, who spoke about some results of the current year and told of aviators' plans for next year.

A week before the end of 1979, the civil air fleet has carried 100 million passengers. Another million air travelers will be added to this figure in the remaining days of December. Nearly 3 million tons of express freight and mail were carried by airplanes and helicopters in the fourth year of the five-year plan.

More than 70 of the country's aviation enterprises and about 2,000 Aeroflot crews and brigades are taking part in socialist competition to fulfill the plan for the 10th Five-Year Plan by the 110th anniversary of V. I. Lenin's birth.

The fleet of aircraft was brought up to date this year on 156 Aeroflot routes—modern fast Il-62, Tu-154 and Tu-134 jet aircraft have begun operating here. These types of airliner already are carrying 63 percent of the passengers in our country. They are the ones that are making four-fifths of all flights originating in Moscow.

The coming year will be marked by the appearance on regular routes of the 350-seat Il-86 airbus, with which Aeroflot crews are becoming familiar, and which is making test flights to the largest airports. Before long the short-range Yak-42 trunk route airliner, which is designed to seat 120, will join the Il-86 for operational tests. The 17-passenger

L-410 "flying microbus," made in Czechoslovakia, is serving local air routes effectively.

Air traffic at the busiest "intersections" of the airways are beginning to be more and more frequently controlled by the controllers' electronic assistants—automated traffic control systems. Such centers, provided with the latest equipment, have appeared in Mineral'nyye Vody and Rostov-na-Donu, and in Kiev and Sochi. They are making it possible to significantly improve flight regularity and safety.

Aeroflot renders various types of assistance to many sectors of the national economy. Here are some figures: over 1,000 agricultural aircraft took part in the cotton harvest this fall; 90 Mi-6 and Mi-8 turbojet helicopters are now supplying operations to lay the largest gas pipeline from Surgut to Polotsk; and about 70,000 emergency calls for sick persons were made by medical aircraft crews during the year.

More than half of the total flight time of crews attending to the orders of sectors of the national economy is spent in the regions of Siberia, the Far East and the Far North. The labor "biography" of the Il-76T jet freighter was begun in Tyumen'. The pilots' assistance to BAM /Baykal-Amur Main Railroad Line/ construction workers is invaluable. Fifteen workers of the East Siberian and Far East Administrations of Civil Aviation have been awarded medals "For construction of the Baykal-Amur Main Railroad Line."

Aeroflot began flights on 10 new international routes in 1979. Our airliners regularly stop at the airports of 84 states.

The main air carrier for the Olympics—the Soviet civil air fleet—is actively preparing for intensive operation in July and August next year. It has been estimated that on the eve of the opening of the 1980 Olympics it will be necessary to make about another 80 special flights every day in addition to those scheduled.

Within the next few days, the doors to the new Sheremet'yev-2 international air terminal complex, with a restaurant for transit passengers, will be opened. Construction of the Olympics air terminal in Tallin is nearing completion, and renovation of the capital's largest air terminal at Vnukovo is continuing.

8936
CSO: 1823

TRANSPORTATION

CHIEF OF FINANCE ADMINISTRATION COMMENTS ON FINANCES

Moscow RECHNOY TRANSPORT in Russian No 8, 1979 signed to press 1 Aug 79
pp 2-3

[Article by V. Zavaruyev, chief of the Finance Administration, member of the board of the Ministry of the River Fleet]

[Text] As is known, one of the main indicators of the economic and social development plan is profits, which determines the final result of the activity of any ministry, association and enterprise.

According to the plan of the 10th Five-Year Plan, the Ministry of the River Fleet should provide an increase of profits by 52.8 percent in operational activity in 1980 and by 62 percent in industrial activity compared to the results of 1975. However, the ministry is not provided the established growth rates of profits. The actual average annual increase of profits comprised 6.4 percent compared to a planned 9.5 percent during three years of the 10th Five-Year Plan. The shipping lines that did not fulfill the profits plan during three years of the five-year plan include Volgotanker, Volga-Don, Northern, Pechora, Irtysh, West Siberian and the Lena Association. The main reasons for failure to fulfill the profits plan are deficiencies in use of the transport fleet, systematic underfulfillment of planned income rates and significant arrears of total income in this regard, overconsumption of funds and excess planned cost of shipments and industrial production and the presence of unproductive losses.

During three years of the navigation season of the current five-year plan, the planned yardsticks of fleet operation were practically underfulfilled by most shipping lines.

The above-plan idle times of the fleet on customer docks were high both in waiting and fulfilling cargo operations. The shipping lines have not done everything to load the fleet in empty and low-cargo lines. The fleet is being put into operation with a delay after winter overhaul and is standing idle above the norm in repair during the navigation season. The noted deficiencies in ship utilization lead to a loss of the fleet's carrying capacity and as a result to arrears of large sums of income.

Underfulfillment of the ship delivery plan also significantly affected the decrease in the rates of cargo traffic growth. Specifically, 44,000 tons of tonnage and 17 tugboats with total capacity of 3,680 kW (5,000 hp) were not delivered by the industrial enterprises in 1978.

Systematic and significant overconsumption of operating funds has been observed during the past few years. According to some items of the estimate, expenses will increase at more rapid rates than will cargo traffic. The total excess estimate for operating expenses comprised 12.5 million rubles in 1976, 22.5 million in 1977 and 33.9 million in 1978. Overconsumption of funds was caused not only by underfulfillment of fleet operating yardsticks, but also by the absence of adequate state discipline in consumption of them. The established reduction of shipment costs has not been achieved for these reasons. In 1976 an increase of the average cost of shipments comprised 4.4 percent, 2.5 percent in 1977 and 1.5 percent in 1978. An increase of shipment cost was permitted by a large number of shipping lines.

Systematic underfulfillment of the planned income rates has an important effect on reduction of profits. Thus, income losses comprised 18 million rubles for this reason in 1976 and 11.2 million rubles in 1978. The level of income rates is affected by significant deviations of the actual nomenclature of cargo shipments from the planned nomenclature, variation of the range of shipments and many other factors. The size of profits are affected significantly by nonproductive expenses and losses which comprised 8.79 million rubles in 1977 and 8.48 million rubles in 1978 in operating activity.

The profit plan from industrial activity has not been fulfilled during three years of the five-year plan, which is explained by an increase in the cost of commercial products and nonproductive losses which comprise more than one million rubles annually.

Wage discipline and the financial condition deteriorated significantly with regard to underfulfillment of the profit plan during the past few years in the shipping lines, at enterprises and in organizations, which is indicated by the constantly existing overdue obligations in loans of Gosbank, to suppliers and contractors and underfulfillment and violation of the deadlines for contributing the established payments to the budget.

Besides underfulfillment of the profit plan, such factors as rerouting their own circulating funds to above-norm reserves of commercial-material valuables and partial waste of circulating funds, the presence of significant sums of debtor obligations, including those for cargo shipments mainly of mineral construction cargo, violation of planning and financial discipline and rerouting of circulating funds for unplanned purposes have a significant effect on deterioration of the financial state and failure to make payments. With regard to underfulfillment of the profit plan and for other reasons, the shipping lines, their enterprises and organizations are finishing each year with a shortage of their own circulating funds, which

comprises significant sums throughout the ministry as a whole. Seventeen shipping lines had a shortage of circulating funds during 1977 and eighteen had a shortage during 1978. At the same time the circulating funds are being used for other than designated purposes. The total funds drawn off to above-norm reserves of commercial-material valuables, which comprised 19.6 million rubles on 1 January 1979, has increased during the past few years.

The task established to the ministry to bring material resources into economic circulation and to accelerate the growth of circulating funds is not being fulfilled. Actual deficiencies of material valuables increased by 11 percent throughout the ministry as a whole during 1978, with an increase of cargo traffic by 5.7 percent and an increase of gross products by 3.7 percent, i.e., outstripping of the rates of increase of reserves of material valuables is being observed compared to the rates of increase of the production program. The reserves of materials at warehouses comprise 64 percent throughout the ministry as a whole of the total sum of their consumption for all types of operations, they comprise 72 percent in the Volga United Steamship Line, 73 percent in the Western Siberian Shipping Line and 82 percent in the Irtysh Shipping Line. Taking into account the adequate transport communications which most plants and ports have, it should be recognized that these reserves are clearly excessive and they can and should be reduced. There are also given deficiencies in other shipping lines.

The above-norm reserves not credited by Gosbank comprised 0.6 million rubles at the Gorodets SRMZ [Ship Repair Yard] on 1 October 1978, unnecessary reserves were worth 130,000 rubles above the annual need--150,000 rubles. In this regard the plant had back payments to Gosbank and to suppliers of more than 1.2 million rubles on the given date.

The presence of spare and interchangeable parts in the shipping lines and basin administrations comprised almost 1.4 annual plans of the deliveries on 1 January 1979. The norm of spare and interchangeable parts equal to 70 percent of their annual deliveries was made up due to the large number of parts for which there is no need or which should have been written off long ago and turned over for scrap metal. For example, the Yenisey Shipping Line had surplus, non-liquid and unsuitable spare parts with a total sum of 450,600 rubles on 1 June 1978 or 47 percent of the total amount, with a norm of 878,000 rubles.

One of the reasons for formation of surplus reserves of materials is the low quality of applications for their delivery. Here is one example to confirm this. The Omsk River Port ordered parts for one of the marks of engines (cylinder covers, valves and so on) for 1978. At the same time these parts were available in the port and were numbered among non-liquid parts.

Other causes of formation of above-norm reserves of commercial-material valuables are changing the production program without changing the delivery

plan of materials and complete sets of equipment, correction of plans for produced articles, insufficient norms of one's own circulating funds, the increase of which is considerably below the increase of the production program and so on.

The causes which generate above-norm reserves must be eliminated and the warehouses must be cleaned of unsuitable and surplus reserves and non-liquid parts. The task is a difficult one, related to specific losses, but it must be solved.

Automated accounting of the movement of material valuables must be introduced to solve this problem. An example of this is organization of accounting for the movement of material valuables at warehouses of the Supply Department of the Belomorsk-Onega Shipping Line. The shipping line already has the opportunity if necessary to obtain data at any time on the presence of materials by specific nomenclatures at warehouses and about the number of materials shipped to enterprises of the shipping line.

Calculated funds occupy a very large specific weight throughout the enterprises of the ministry. Debtor obligations exceed 20 percent in the structure of circulating funds during the navigation season and more than 15 percent of circulating funds are formed due to creditor obligations.

The obligations of customers for services rendered by river transport and especially for delivery of mineral-construction cargo, has increased significantly during the past few years with an increase of shipments. Throughout the ministry as a whole, the debtor obligations increased by 43.7 percent compared to data for the beginning of the five-year plan. Obligations for shipments of mineral-construction cargo alone, which are sometimes carried out due to fulfilling the plan in tons, comprised 63 percent of its total sum. Large sums of income are being diverted from circulation to handling cargo, which has been lying for a long time in the ports prior to transfer of them to the railroad (6-7 million tons with income worth no less than 15 million rubles).

The specific weight of debtor obligations due to failure to observe the procedure for calculations within the system by some enterprises is also high. For example, creditor and debtor obligations of the ports and administrations of the shipping lines, respectively, comprised 16 percent of the total sum of obligations on 1 October 1978 (according to 41 enterprises checked) as a result of delays by the ports in their circulation of transit receipts belonging to the shipping lines.

There are also other violations of payment discipline: untimely and incorrect formulation of calculating documents, untimeliness of accounting for income and calculations for wages paid to ship crews of their own and related shipping lines and so on.

In some cases circulating funds are being used in significant amounts for unplanned expenditures of a capital nature. Immobilization of

circulating funds to major overhaul comprised 3.6 million rubles on 1 January 1979.

In 1978 the Volgotanker Shipping Line diverted 1.9 million rubles of circulating funds to major overhaul, the Belomorsk-Onega Line diverted 0.5 million rubles, the Lena United Shipping Line diverted 1.2 million rubles and the Irtysh Shipping Line diverted 0.3 million rubles.

Many shipping lines permitted above-plan capital investments in 1978 in the absence of financing sources. This is especially true of the Volga United Steamship Company, the Moscow, Volga-Don and Volgotanker Shipping Lines.

What priority measures should the shipping lines, basin route administrations, enterprises and organizations adopt to improve the financial work, to strengthen payment discipline and to restore a healthy financial situation?

First, an increase in the efficiency of using basic funds and especially of the transport fleet and transloading equipment and determination and use of production reserves must be achieved. This is the main problem, on solution of which the financial indicators will depend. Second, the factors which generate unthrifty and inefficient, unproductive use of monetary resources must be eliminated--the struggle to preserve cargo during shipment and storage must be intensified, measures must be adopted toward a maximum saving of operating funds and funds for production of industrial products, to reduce expenditures for elimination of accidents and emergency situations and to prevent spoilage and loss of material resources. Third, conditions must be created for maximum use of the credit system. It should be noted in this regard that bank credits have become one of the main sources of forming the circulating funds of enterprises and organizations of river transport. It is sufficient to say that the fraction of Gosbank credits in formation of circulating funds comprises approximately 30 percent of the total sum of credited reserves of material valuables and more than 60 percent of the norm throughout river transport.

Sanctions must be vigorously applied toward those cargo dispatchers and recipients who delay payments for shipments for some reason or other, up to stopping further shipments and performing other services until the obligation has been eliminated. Monitoring of the timeliness and completeness of fund collection from customers for shipments, loading-unloading operations and other services rendered by river transport should be increased significantly in the shipping lines.

As a result of investigations conducted by the Finance Administration of the ministry, facts of a direct loss of income have been established in the shipping lines which were caused in most cases by unsatisfactory formulation of documents and low-quality assessment of documents at cargo shipping and turnover points.

Elimination of the deficiencies existing in organization of financial activity should have the purpose of providing the necessary conditions for successful fulfillment of the financial plans both for individual enterprises and throughout the sector as a whole. The main role in this belongs to workers of the economic and financial services of the enterprises and organizations of the Ministry of the River Fleet.

COPYRIGHT: "Rechnoy Transport", 1979

6521

CSO: 1823

TRANSPORTATION

DELAYS IN COAL TRANSPORT REPORTED

Moscow GUDOK in Russian 22 Dec 79 p 1

[Article: "Coal--The Tempo is Not Being Maintained"]

[Text] We recall that the railroad workers were supposed to load 2,000 more rail cars of coal in December than in November. The first two 10-day periods are behind and what is the result?--debts: more than 200,000 tons to the plan and 1,720,000 tons to the additional task.

The greatest lag is on the Donetsk Railroad. And this is mainly through the fault of the miners who are not presenting the proper amount of fuel to the shippers. During the past few days refusals of empty cars applied for and a reduction of the application themselves have become more frequent on their part. And they are also far from using the rolling stock thriftily.

But it would not be objective to explain the current failures of the Donetsk workers only by the counting errors of the miners. There are also many missed opportunities on the account of the railroad workers. There are enough gondolas on the railroad and they are even above the norm with local freight. But unloading has not been organized in the proper manner: 500 gondolas remain unreleased daily.

What can one advise the allied workers of the Donetsk Railroad under these conditions? Of course, they must strengthen the business contacts, organize more widely the complex competition and universally support each other on all sections of the fuel conveyor. The annual task should be fulfilled

The related workers of the Kemerovo Railroad are now operating more stably. Since the beginning of the month, they have made up the plan by almost 400,000 tons. They have recently been loading at the level of the task somewhere, although the debt is still not eliminated: it comprises approximately 200,000 tons. But the Kemerovo workers do have reserves and they cannot complain about the shortage of gondolas. Unloading must be intensified. And primarily they must accelerate transport of local freight. This is the main obstacle--surplus transits: more than 3,500

rail cars. The managers of the Krasnoyarsk Railroad, which is significantly delaying the traffic flow at Mezhdurechensk Junction, should help the Kemerovo workers to free themselves of these cars. Requirements on the metallurgists, who systematically overdelay scarce rolling stock for loading operations, must also be increased.

They are also coping with the plan and even exceeding it on the Tselinnaya Railroad. But still the debt to the task exceeds 260,000 tons. The collective of this railroad has every opportunity to intensify transport of Ekibastuz coal during the remaining days of December and to emerge with loading of it to the mark of the additional task. There are both sufficient empty cars and gondolas with local freight here.

The allied workers of such railroads as the Northern, East Siberian, Krasnoyarsk and Alma-Ata are fully capable of accelerating the fuel conveyor. The lag behind the plan and the task is low here and it can be eliminated during the next few days.

The importance of conforming to regulating discipline should be noted. Especially now, when the fate of the annual plans and pledges is being decided. Unfortunately, one cannot at present find a model of it. And no one is arranging it the way that the Donetsk Railroad is: it has had a shortfall of more than 500 empty cars daily since the beginning of December. The guilty parties are the same ones: the Moldavian, Odessa, South-western, L'vov, Azerbaijan and Transcaucasian Railroads. They are supporting the Tselinnaya and Kemerovo railroads with interruptions. The main traffic board must adopt measures to strengthen regulating discipline.

In short, the work tempos on the coal conveyor must be increased sharply during the remaining days of December. The toilers of the steel main-lines may and should create reliable coal reserves at the plants and electric power stations in cooperation with the miners.

6521

CSO: 1823

TRANSPORTATION

VARIOUS USES OF COMPUTERS IN TRANSPORTATION DESCRIBED

Maritime Accounting

Moscow VODNYI TRANSPORT in Russian 1 Dec 79 p 2

[Article by I. Dolgosheya, chief bookkeeper of the Il'ichevsk Maritime Trade Port: "With the Help of Computers"]

[Text] Scientific and technical progress in the area of the organization and management of production is making greater demands on the level of accounting. In fulfilling its assigned program, accounting in the Ilichevskiy sea port has been centralized and completely mechanized. The primary documents are processed on the "Minsk-32" computer, which provides the balance and other data for control and accountability.

Use of the computer has raised the accuracy and efficiency of the accounting data, created good conditions for their utilization in economic management, reduced accounting expenses and has freed accounting specialists from technical work. This has allowed them to devote more time to control and economic analysis, which has resulted in an overall savings for the port of 50,000 rubles.

Computers Calculate Timetables

Moscow GUDOK in Russian 5 Dec 79 p 2

[Text] Computers are being successfully utilized by the workers of the computer technology department in cooperation with the main administrations of the Ministry of Railroads and with the railways for calculating railroad traffic timetables. For example, the timetables calculated by computer for the single-track sections of the Oktyabr'skaya and the Severo-Kavkazskaya railroads have made it possible to raise the traffic capacity by 3 to 5 percent and to increase traffic speed for freight trains by approximately 5 to 10 percent. Railroad traffic timetables for the double-track sections of the Mineral'nyye Vody-L'vov line have also been calculated by computer.

Insufficient Computer Supplies

Moscow GUDOK in Russian 2 Dec 79 p 2

[Article by G. Mar'yenko and N. Sidorenko]

[Text] "Millions," that is the value of the fixed capital of the computer equipment which is becoming ever more common on the railroads, particularly on our Donetskaya line. The price of the paper, ink, tapes, and so on is measured in "rubles." They are essential for the teletypes and other printing devices which are called, in the language of the specialists, peripheral computer equipment.

A computer works quickly, with a speed of tens and hundreds of thousands of operations per second. And then it waits for hours and whole days until it is given something to print on. What a smart and patient machine! And those who are supposed to supply it with paper, tapes and so on sit at their telephones "knocking themselves out."

Judge for yourself. Ten years ago there was only one single printing device on the railroad which was linked to computer. Then the limit of printing ribbon for it was fixed at 500 meters. Now we have six such devices. The ribbon limit is the same 500 meters. The situation is the same with paper.

The suppliers throw up their hands; there are no resources or funds. But consider that automation of the operations of the commercial accounting offices using computer equipment has significantly reduced the use of paper among these primary paper consumers (half of the paper fund goes to the RTK allotment). And if the computer produces such a result then it should be possible to supply its normal operations with the materials it has saved.

But that is not the case. Today we are allotted a total of 3 tons of paper, while the paper accounts require nearly double that weight. Where can it be acquired? "That has been decentralized." From where? "Show some ingenuity!"

The computer inventory is growing. We are working on creating automatic control systems for the classification yard in Debal'tsevo, Krasnyy Liman, Ilovaysk, and so on. But there are hardly enough of the "scarce trifles" [as GUDOK termed teletype paper, perforated tape, ribbons for typewriters, and so on in its issue of 21 Oct) for the Yasinovataya line where such a system is already in operation.

It is probably worth reducing expenditures on computer equipment and then using the resources saved to provide normal supplies to the computers already operating. What is the point of expensive equipment if it is doomed to stand idle because of a scarcity of materials?

Computer Controls Traffic Lights

Moscow TRUD in Russian 1 Dec 79 p 2

[Article by V. Ivanov]

[Text] The automatic control system for highway traffic "Gorod" has been put into operation on the central streets of Alma-Ata.

It includes a computer, which is capable of independently analyzing the situation on the transport arteries, program equipment, electronic monitors and television equipment. Depending on the intensity of the vehicle traffic, "Gorod" automatically alters the speed at which the traffic lights function. This has reduced the number and length of stops which vehicles make at traffic lights.

As the specialists have established, the "Gorod" system has increased the average speed of vehicle by 25 to 30 percent.

11,220

CSO: 1823

TRANSPORTATION

BRIEFS

DIESEL PRODUCTION--The collectives of Promstroy Trust [expansion unknown] (general contractor) and Trust No. 7 (subcontractor) at the Penza Diesel Plant have completed construction of a shop for production of diesels with total rating of 45,000 horsepower and collectives of the Kommunarstroy Trust [expansion unknown] and the Donbassmetallurgmontazh Trust [Donbass Trust for Installation of Metallurgical Equipment] have completed a complex for production of 1,400 mineral carrier rail cars annually at the Stakhanov Rail Car Building Plant. [Text] [Moscow STROITEL'NAYA GAZETA in Russian 12 Sep 79 p 1] 6521

FREIGHT SHIPPING--Volgograd, 7 Dec 79--An unusual train was dispatched from the tracks of the tractor plant. A total of 60 DT-75 caterpillar tractor instead of 40 according to the presently existing norms was installed on 10 of its flatcars. Every third flatcar was freed due to the consolidated method of loading. Loading consolidation operations are being carried out at Volgograd by a group of innovators--railroad and plant workers under the supervision of the deputy chief of the local railroad division S. Babakhanyan. The innovators proposed that wood wedging spacers could be done away with by arranging the tractors at an angle to the flatcar axis--in a "Christmas tree pattern." As a result, the carpenter's shop for preparation of wedges was no longer necessary at the plant and the saving of wood comprised 1,600 cubic meters annually. And the innovators have now successfully introduced the new scheme. The tractors are now arranged in two rows along the flatcar axis. True, insertion attachment fittings were newly required for this. But they are metal, can be used many times and are incidentally made of metal wastes. "The Ministry of Railways has approved the new method of loading tractors and has authorized its use at the Volgograd Tractor Plant," says S. Babakhanyan. "It will result in a saving of 250,000 rubles annually here alone." [Text] [Moscow PRAVDA in Russian 8 Dec 79 p 1] 6521

RAILWAY BRIDGE CONSTRUCTION--The State Committee has accepted with a mark of "excellent" the last railway bridge on the Tynda-Berkakit Line. It was constructed near the terminal station of Malyy BAM [Baykal-Amur Mainline Railroad]. The steel route will soon go into permanent operation and the first heavy trains will pass over it. A total of 174 bridges over tens of large and small rivers has been constructed on the Tynda-Berkakit Line, whose length is 220 kilometers. Sometimes there are 3-4 bridge crossings per kilometer. [Text] [Moscow MOSKOVSKAYA PRAVDA in Russian 4 Dec 79 p 1] 6521

RAILWAY TRANSPORT--Nakhodka--The Neryungri-BAM-Vostochnyy Port Transport conveyor has begun operation. Yesterday the first consignment of coal produced in the mines of Southern Yakutiya was delivered by rail to the Gulf of Wrangel. Eight thousand tons of solid fuel was delivered to the storage areas of the large coal-handling complex. [Text] [Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 15 Nov 79 p 1] 6521

FREIGHT SHIPMENT--Kishinev--The experience of the enterprises of the Moscow Railroad helped the railroad workers of Moldavia to increase freight shipments without recruitment of additional locomotives. Many engineers of the Moldavian Railroad now drive trains of increased weight and length. Almost three million tons of freight above the plan has been delivered by these trains since the beginning of the year. [Text] [Moscow MOSKOVSKAYA PRAVDA in Russian 13 Nov 79 p 1] 6521

HIGH-SPEED EXPRESS--The ER-200 high-speed express began scheduled passenger runs between the city on the Neva River and Moscow. It reaches a speed of 200 kilometers per hour on some sections of the route. The next step of testing the train coincided with reconstruction of the October Railroad. The beginning of the ER-200 traffic was developing a model of high-speed passenger service in our country. [Text] [Moscow KRASNAYA ZVEZDA in Russian 26 Dec 79 p 3] 6521

ELECTRIC POWER--Workers of the Transenergomontazh Trust of Mintransstroy [Ministry of Transport Construction] turned over for permanent operation an electric power transmission line of 35 kilovolts, thus providing delivery of electric power from the Zeyskaya Gas GES to Yakutiya. Supply of energy to objects of the Tynda Railroad section-Nagornyy Tunnel has been organized by the new line to Berkakit. Installers of power engineering train No. 764 supervised by chief engineer V. N. Sadovskiy carried out the operations on the LEP [Overhead electric power transmission line]. Yuriy Khvostov's brigade especially distinguished itself in the installation. [Text] [Moscow GUDOK in Russian 7 Dec 79 p 2] 6521

MICROCONTROL COMPUTER--Riga--The microcontrol computer developed by Latvian scientists has begun to perform a number of functions of the electric locomotive engineer. The electronic machine, designed for the latest model of Riga Rail Car Builders--the ER-200 electric locomotive--will help in more economic use of electric power from the supply system and will increase traffic safety. [Text] [Moscow MOSKOVSKAYA PRAVDA in Russian 28 Sep 79 p 1] 6521

MOBILE POWER GENERATION--A diesel locomotive rolled out a flatcar with the hundredth mobile electric power station AS-500 BAM from the gates of the head plant of the Leningrad Association Zvezda. The flatcar was coupled to one of many trains being dispatched from Leningrad to the east and the station began its journey to the builders of the Baykal-Amur Mainline Railroad. The station is completely automated. One has only to connect a hose with fuel to it, lay the cable, start the diesel and the station

begins to produce current. It does not require permanent maintenance personnel for operation. Automatic devices control all units. The AS-500 BAM is cold-resistant, it can operate at -60° and a temperature of 15-20° will be maintained automatically inside the station. And, which is especially important under conditions of remote construction sites--the station capable of providing electric power to a large village can be moved not only on a railroad flatcar, but also on its own runners. They operate it reliably. It is no accident that these products have been awarded the State Badge of Quality. [Text] [Moscow TRUD in Russian 30 Nov 79 p 2] 6521

END

END OF

FICHE

DATE FILMED

13 FEB

N.P.M. 80